

PSYCHOLOGICAL ABSTRACTS

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CONTENTS

General.....	689-726
Sensation and Perception.....	727-779
Feeling and Emotion.....	780-788
Attention, Memory and Thought.....	789-811
Nervous System.....	812-836
Motor Phenomena and Action.....	837-892
Plant and Animal Behavior.....	893-960
Evolution and Heredity.....	961-966
Special Mental Conditions.....	967-986
Nervous and Mental Disorders.....	987-1030
Personality and Character.....	1031-1051
Social Functions of the Individual.....	1052-1127
Industrial and Personnel Problems.....	1128-1154
Educational Psychology.....	1155-1205
Biometry and Statistics.....	1206-1217
Mental Tests.....	1218-1225
Childhood and Adolescence.....	1226-1270

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AUTHOR INDEX

- Abuladze, K. S., 893
Achilles, P. S., 1052
Adams, G., 780
Adler, A., 987
Ahrens, B., 973
Aigner, A., 837
Alajouanine, T., 812
Alexander, C., 1155
Alexander, G., 894
Allard, H. A., 895
Allgaier, E., 689
Altstetter, M. F., 1156
Andersberg, R., 1128
Anderson, J. E., 1053
[Anon.], 1054, 1129
Arkin, H., 1206
Arnold, T. W., 1055
Asch, S. E., 690
Averill, L. A., 1157
- Bagans-Lehmann, M., 1031
Baier, D. E., 727
Baker, A. T., 1056
Baker, K. H., 722
Balke, K., 728
Bárány, E., 691
Barron, D. H., 934
Bartlett, M. R., 988
Baschmakoff, W. L., 838
Baudouin, A., 729
Baumgarten, F., 1226
Baumgartner, H. W., 1032
Baym, N., 1227
Bayroff, A. G., 896
Beck, S. J., 1218
Benedict, A. A., 692
Bergler, E., 788, 967
Berland, L., 897, 898
Bernstein, N. A., 711
Biancani, H., 730
Biancani, H., 730
Biegeleisen, B., 1130, 1207
Bing, H., 839
Bingham, W. V., 1131
Biswanger, 968
Boder, D. P., 693
Bolles, M. M., 939
Bonger, W. A., 1057
Bordier, H., 731
Bornstein, B., 781
Both, M., 899
Bott, E. A., 840
Bouman, H. D., 841, 883
Bracken, H. V., 1058
Bradbury, D. E., 1158
Brander, T., 989, 1228
Bray, C. W., 732
Bremer, F., 969
Brentlinger, W. H., 1059
Brewer, K., 909
Bridgman, C. S., 842
Bridgman, W. J., 843
Brown, R. H., 900
Bruce, R. H., 901, 902
Brunin, O., 990
Brunell, A., 812
Brunner, G., 903
Bryan, A. I., 1147
Bryan, L., 924
Buddenbrock, W. v., 733
Bühler, C., 1033
Bühler, K., 1229
Bujas, R., 844
Bujas, Z., 734, 735
Bunch, M. E., 845
Burks, B. S., 1034
Bychowski, G., 1060
Byrne, L., 1208
- Calhoon, S. W., 789, 790
Candee, B., 1219
Carmichael, L., 842, 846
Carr, H. A., 929
Cason, H., 736, 847
Chapman, D. W., 737
Chappell, M. N., 813
Charters, W. W., 1159
Chauchard, A., 814
Chikovan, M. Y., 1061
Childers, A. T., 1230
Christensen, A. M., 1160
Christiansen, C., 1161
- Church, R. W., 694
Claparède, E., 695, 791, 848
Clark, L. B., 904
Cleaton, G. U., 1132
Collin, R., 738
Combes, Mme. M., 905
Conner, J. P., 739
Conroy, W. J., 696
Copeland, H. A., 740
Copelmann, L., 1222
Coubon, P., 991
Coxe, W. W., 1162
Crawford, M. P., 906, 907
Cressey, P. F., 1062
Crozier, W. J., 908
Cruikshank, R. M., 823
Cainady, E. V., 849
Cuff, N. B., 1163
Culler, E., 741, 794, 843
Cunningham, K. S., 1164
Curti, M. W., 1063
Curtius, O., 970
- Daly, C. D., 971
Daniels, E. E., 1231
Darley, J. G., 1203
Darrow, C. W., 782, 850
Davis, H., 815
Davis, J. E., 909
Davis, R. C., 697
Derbyshire, A. J., 815
Desparis, M., 729
Detchen, L., 1191, 1192
Detwiler, S. R., 910
Deutsch, F., 972
Dewey, E., 1232
Dewey, J. C., 1165
Dimmick, G. B., 783, 1166
Dimock, H. S., 1233
Dobrowolska, H., 1064
Dognon, A., 730
Dohman, G., 698
Doll, E. A., 992
Dollard, J., 1234
Dolken, —, 993
Donges, L., 1035
Dorcas, R. M., 851
Dory, A., 1235
Doscher, M. E., 1220
Douglass, H. R., 1167
Drabovitch, W., 814
Dubitscher, F., 994
Dunlap, K., 995
Dupouy, R., 996
Durling, D., 997
Durup, G., 742
- Eberhart, J. C., 1065
Eccles, J. C., 816, 817
Eddy, N. B., 973, 982
Edgerton, H. A., 1209
Eidelberg, L., 974
Elder, J. H., 935
Elkind, H. B., 1066, 1168
Emch, M., 998
Encasse, P., 975
Engel, P., 1236
English, H. B., 792
Ewert, P. H., 852
Ey, H., 999
- Faber, —, 1169
Farnsworth, P. R., 1067
Faure-Fremiet, P., 793
Feaser, B., 863
Fernberger, S. W., 699
Fields, P. E., 911, 912
Fierts, C. O., 1133
Finch, F. H., 1134
Finch, G., 794
Finkler, W., 853
Finner, P. F., 700
Fischer, W., 913
Flory, C. D., 1237
Foster, R. G., 1238
Fox, C. W., 1068
Frandsen, A. N., 1000
Frank, L. K., 1239
Freeman, F., 1240
Frings, J., 964
Fry, G. A., 743
Fulton, J. F., 818
- Gahagan, L., 1027
Ganong, R. E., 739
Gardner, W. A., 744
Garth, T. R., 961
Gates, A. I., 1069
Gebewicz, E., 745
Gienesse, H., 1070
Giese, F., 1170
Girden, E., 914
Gleason, C. W., 1171
Glover, E., 1001
Glueck, E. T., 1071
Gontarski, H., 915
Good, C. V., 1172
Goodenough, F. L., 1053
Gosselin, A. J., 1135
Graham, C. H., 746
Gray, J. S., 1173
Greenwald, D. U., 701
Griffith, P. E., 702
Groslikowa, B., 1072
Grove, W. R., 1221
Groves, E. R., 1073
Guilford, J. P., 751
Guillaume, P., 854
Gundlach, R. H., 1074, 1075
Guthell, E., 976, 1076
- Haeberlin, C., 703
Haig, C., 746
Halbron, P., 729
Hall, A., 704
Halverson, H. M., 1241
Hamilton, H. C., 916
Hardy, A. C., 705
Hardy, M. C., 1242
Harlow, H. F., 820
Harper, A. A., 821
Harrington, M., 1002
Harris, D., 1036
Hartmann, G. W., 795
Hartson, L. D., 747
Hame, A., 1136
Haatings, A. B., 942
Hathaway, S. R., 855
Hawkins, L. S., 1137
Hayes, S. P., Jr., 1077
Hecht, S., 748
Heider, F., 1243
Heiser, F., 749
Helke, J. W., 706
Henderson, E. M., 1063
Hendricks, W. A., 1210
Hevner, K., 784
Higginson, G. D., 707
Hilden, A. H., 856
Himes, N. E., 962
Hoadley, L., 917
Hoagland, H., 750
Hodge, F. A., 785
Hoff, H., 1003
Hoffeditz, E. L., 751
Hollister, G. E., 1181
Holoppe, J. Q., 708
Holst, E. v., 918
Hoppock, R., 1174
Hormann, M., 919
Horowitz, E. L., 1078
Horton, G. P., 732
Hovland, C. I., 857, 858
Howard, H., 823
Howells, T. H., 752
Hull, W., 859
Hull, C. L., 860
Husband, R. W., 1138
Hyman, N. W., 1224
- Iakowleff, C., 822
Iljin-Kakujef, B. I., 838
Isotoff, A., 1114
Ivana, V. M., 1139
- Jacoby, H., 1079, 1126
Jasper, H. H., 823, 834
Jastrow, J., 1004
Jenkins, J. G., 1140
Jenkins, J. N., 954
Johnson, M. W., 1244
Johnson, R. I., 1175
Jones, E. S., 1176
- Jordi, A., 861
Judd, R. D., 1177
- Kaem, J., 871
Kanger, A., 1080
Karsten, T. E., 1081
Karunovskaya, L. E., 1082
Katz, D., 859
Keeler, L. W., 796
Kelley, G. O., 1083
Kelley, T. L., 1211
Kelly, E. L., 753, 1084
Kelly, G. A., 1005
Kelly, W. A., 1178
Kemp, E. J., 1037, 1038, 1039
Kennedy, J. L., 920
Kirk, S. A., 824, 825
Kirkpatrick, M., 1245
Kitzinger, H., 1141
Klein, M., 826
Knoll, W., 862, 863, 864
Knoop, W., 1179
Koch, A. M., 921
Koch, H. L., 1246
Kohn, W., 963
Korczak, J., 1247
Kornhauser, A. W., 1142
Kornmüller, A., 1006
Kornmüller, A. E., 827
Kraus, F. S., 1085
Krechevsky, I., 922
Kreindler, A., 1222
Kretschmer, E., 1040
Kris, E., 1086
Kuip, D. H., 1180
Kurath, W., 1198
Kwinte, L., 865
- Lafora, G. R., 1007
Landis, C., 1008
Landmark, J., 977
Lapicque, L., 828
Lauer, A. R., 692
Lazarfeld, P. F., 1142
Leavell, U. W., 1181
Leclier, A., 1009
Leconte, M., 991
Lepper, R., 1212
Lehman, H. C., 1087
Lentz, T. F., 1041
Leonard, J. P., 1182
Lepley, W. M., 797
Levine, K. N., 866
Lewis, A., 1121
Likert, R., 1088
Link, H. C., 1052
Liu, A. C., 829
Locke, N. M., 923
Lodge, T., 1245
Long, H. H., 1089
Loomis, A. K., 1183
Loomis, A. M., 1248
Lord, E., 1184
Lorente de Nó, R., 830, 831
Lorge, I., 798, 809, 1042
Lyon, V. W., 1090
- MacAdam, D. L., 754
Macewicz, P., 1143
MacFarland, J. W., 1260
Macht, D. I., 924
Maesse, H., 1091
Mahan, H. C., 1010
Maier, N. R. F., 925
Maller, J. B., 1092
Maloy, B. S., 1011
Malsberg, B., 1012
Maney, C. A., 1185
Manuel, H. T., 1093
Marchionini, A., 832
Margaria, R., 746
Marinesco, G., 1222
Markeloff, G. I., 880
Marshall, F. B., 1063
Marx, J., 927
Maslov, E., 1026
Maslow, A. H., 926
Mateer, F., 867
Matlack, H. H., 916
Maublanc, R., 799
Maudy, M., 1231
Maurer, S., 928, 929
- Mausse, M., 868
Max, L. W., 755, 869
Mayerhofer, G., 1139
McCarthy, D., 1249
McComas, H. C., 978
McDougall, W., 1094
McElwee, E. W., 800
McGeoch, G. O., 1250
McGeoch, J. A., 801
McKinney, F., 802
McLean, L., 874
McSwiney, B. A., 821
Meerloo, A. M., 756
Meier, N. C., 1095
Meinertz, J., 1013
Meissner, J., 1014
Mellner, A., 1144
Meltzer, H., 1251
Meng, H., 1186
Menzies, R., 930
Metfessel, M., 930
Mettler, F. A., 931
Michaels, J. J., 1252
Miller, N. E., 833
Mishchenko, M. N., 978, 980
Mock, K. H., 864
Moede, W., 1145
Mogendovich, N., 871
Mogilanskaya, Z. W., 711
Möller, N. B., 1015
Monnier, M., 757
Montpellier, G. de, 709
Moore, E. H., 803
Morgan, J. J. B., 1016
Morlaas, J., 1096
Morse, M., 942
Moss, F. A., 1017
Mourachowsky, L., 1253
Mower, O. H., 833
Mühl-Köhler, R., 1146
Müller, L. R., 872
Müller, M., 1018
Murchison, C., 932, 1097
Musgrave, H., 933
Myers, G. C., 1254
Myers, V. C., 1187
- Nash, J. B., 1188
Nelken, J., 1019
Newhall, S. M., 758
Nicholas, J. S., 934
Nickerson, D., 759
Nimkoff, M. F., 1189
Nielsen, H. W., 907, 935, 948
- Oberlin, K. W., 760
Oberly, H. S., 1098
Ochapovsky, S., 761
Odum, D. M., 1099
Oldham, E. V., 1255
Ombredane, A., 1100
Onfray, R., 762
Oppenheimer, J. J., 1191, 1192
Orgel, S. Z., 1256
Ortmann, O., 1101
Orton, S. T., 1257
- Pareto, V., 1102
Patrick, C., 1103
Paulus, J., 710
Pawlowski, F., 1258
Peak, H., 804
Peckham, R. H., 763
Pennington, L. A., 764
Perl, R. E., 1147
Perlbarg, A., 873
Peters, H. N., 805, 874
Petit, P. J., 762
Pfaffmann, C., 834, 917
Pfandl, L., 981
Pfeifer, M., 765
Pferdorff, C., 1020
Pike, F. H., 813
Pincus, G., 908
Pitkin, W. B., 875
Popova, T. C., 711
Portenier, L. G., 1193
Poznańska, A., 1247
Pratt, K. C., 1259
Pressay, S. L., 876

(Continued on Inside Back Cover)

PSYCHOLOGICAL ABSTRACTS

Vol. X, No. 2

February, 1936

GENERAL

689. Allgaier, E. A portable chronoscope. *Amer. J. Psychol.*, 1935, 47, 685-688.—D. E. Johannsen (Skidmore).
690. Asch, S. E. The constancy of mental organization. *Psychol. Bull.*, 1935, 32, 718.—Abstract.—J. F. Dashiell (North Carolina).
691. Bárány, E., & Sperber, E. Über den Bau von elektrischen Audiometern. (The construction of an electrical audiometer.) *Acta oto-Laryng., Stockh.*, 1935, 23, 182-199.—The electrical audiometer described has a continuous tone series from 30 to 15,000. Tone amplitude can be varied in the ratio of 30,000 to 1. It is practically free from overtones, and has a large volume, so that quite deaf patients can be examined.—M. B. Mitchell (New Hampshire State Hospital).
692. Benedict, A. A., & Lauer, A. R. An apparatus for quantitative measurements of color vision. *J. comp. Psychol.*, 1935, 20, 107-112.—Using a polarization spectrophotometer with a Brace prism and a constant deviation wave-length spectrometer, the authors have devised an apparatus which makes it possible to observe a band of the spectrum of any size at any desired intensity under conditions such that color blindness can be tested.—N. L. Munn (Pittsburgh).
693. Boder, D. P. A metascope and diploscope. *Amer. J. Psychol.*, 1935, 47, 688-690.—D. E. Johannsen (Skidmore).
694. Church, R. W. Hume's theory of the understanding. Ithaca: Cornell Univ. Press, 1935. Pp. 238. \$3.00.—"In Hume's view, knowledge unqualified will consist in the awareness by direct comparison of the qualitative identities which cases of resemblance and degrees of quality are. But where the matter is at all complicated, we can only rely on habits of inference, the accuracy of whose activity is always doubtful. Since the understanding consists of habits of inference, it will be plain that nature determines us to infer. The general structure of these habits, formulated in rules by which to judge of causes and effects, is for Hume the logic of the actual understanding, itself consisting of habitually related beliefs or perceptions."—H. D. Spoerl (Northeastern).
695. Claparède, E. *Causeries psychologiques. 2ème série.* (Psychological talks. 2nd series.) Geneva: Kundig, 1935. Pp. 99.—There are 18 articles on psychological topics which first appeared in the *Journal de Genève*: sleep, a defense reaction; how the child understands history; parapsychic phenomena, etc. In the article on the evolution of the color sense, the author shows that Jaensch's theory, according to which blue is phylogenetically an older color than red, corresponds completely with the theory developed earlier by Mrs. Ladd-Franklin.—M. R. Lambercier (Geneva).
696. Conroy, W. J. The limitations of the experimental method in psychology. *Psychol. Exch.*, 1935, 4, 24; 29.—J. F. Dashiell (North Carolina).
697. Davis, R. C. Properties of electrodes used in recording action potentials from the intact organism. *Amer. J. Psychol.*, 1935, 47, 693-695.—D. E. Johannsen (Skidmore).
698. Dohlman, G. Towards a method for quantitative measurement of the functional capacity of the vestibular apparatus. *Acta oto-Laryng., Stockh.*, 1935, 23, 50-62.—The apparatus is attached to the patient's head with a head band. His right eye is cocainized and a blepharostat is used to keep his eyelids apart. A rubber cap is pressed over the cornea and held in position by suction. A photo cell attached to the head band is connected with the rubber cap by aluminum levers and rubber connections. The eye movements and rotation of the chair are recorded on the same film.—M. B. Mitchell (New Hampshire State Hospital).
699. Fernberger, S. W. Fundamental categories as determiners of psychological systems: an excursion into ancient Chinese psychologies. *Psychol. Rev.*, 1935, 42, 544-554.—An analysis of the psychological systems built up by the early Chinese shows them to compare favorably with those of the Greeks. Both groups of systems are built about an accepted system of cosmological elements, and the necessity for preserving the proper number of elements has frequently dictated the character of the system. The five Chinese elements, wood, fire, earth, metal, and water were given analogies in the five tastes, five smells, five colors, five virtues, etc. With the Greeks there were four elements, hence four temperaments, etc. A moral is drawn for modern psychological system-makers to avoid being similarly influenced.—A. G. Bills (Chicago).
700. Finner, P. F. An introduction to experimental psychology. New York: Prentice-Hall, 1935. Pp. xiii + 269. \$2.00.—This text is an attempt "to present experimental psychology as an integral part of the field of science," aiming the choice of experiments "to impart knowledge of the subject to the subject, and of the group to the group," and "to impart the conviction that something has been actually discovered." The book is divided into three parts. Part I contains an introduction to scientific method as it applies to psychology. Part II consists of 54 experiments of the qualitative type grouped under 10 rubrics which are original with the author. Part III introduces "variable records: their nature and the methods of using them in scientific investigations," i.e., elementary statistical methods. Appendices are added which contain record-sheets and

materials for the experiments.—*J. McV. Hunt* (Nebraska).

701. Greenwald, D. U. An apparatus for measuring the electrodermal response. *Amer. J. Psychol.*, 1935, 47, 682-685.—*D. E. Johannsen* (Skidmore).

702. Griffith, P. E., & Wenger, M. A. A direct-coupled amplifier for the study of electrodermal phenomena. *Amer. J. Psychol.*, 1935, 47, 678-681.—*D. E. Johannsen* (Skidmore).

703. Haeblerlin, C. Ueber das vital Unbewusste, Bewusstsein und Charakter mit Bemerkungen über die deutsche Seelenkunde von Goethe und Carus. (The vital unconscious, consciousness and character, with remarks on the German soul-study of Goethe and Carus.) *Zbl. Psychotherap.*, 1935, 8, 279-295.—Haeblerlin discusses the creative unconscious, consciousness, mind, and character from the viewpoint of the vital psychic nature of the cosmos. The vital unconscious was discovered by Goethe and was first comprehensively reviewed by Carus, whose theory should replace all non-German, destructive, analytic, mechanistic-materialistic concepts. Mind is the enemy of soul, blood and life. There can never be harmony between these two powers, and bridging the gap creates tension. As long as soul is in control, the individual and the culture retain creativeness; but the ascendancy of mind leads to will-to-power, mammonism, bolshevism, and death. When soul still struggles with mind, neuroses appear. Vital character is unchangeable, but conduct, the will and the development of vital power are amenable to education and discipline. The aim of this development, toward which German psychotherapy strives, is the national socialistic state, a return to blood, soul, folk, and soil.—*M. E. Morse* (Baltimore).

704. Hall, A. On a new method for filming the larynx. *Acta oto-laryng. Stockh.*, 1935, 23, 113-124.—Standard photographic equipment was used with the indirect laryngoscopic method. Ten photographs of apparatus and samples of cinematographic records obtained with it. Bibliography.—*M. B. Mitchell* (New Hampshire State Hospital).

705. Hardy, A. C. A new recording spectrophotometer. *J. opt. Soc. Amer.*, 1935, 25, 305-311.—Describes this improved photoelectric spectrophotometer with an integrating attachment giving the tristimulus values of tested samples for a standard light source and observer.—*M. R. Stoll* (Massachusetts Eye & Ear Infirmary).

706. Helke, J. W. Korrelation oder Wertigkeit? (Correlation or appraisal?) *Z. angew. Psychol.*, 1935, 49, 129-168.—Methods of correlation in general use assume relations of simple dependence. This assumption is sometimes inadequate in psychology, especially in "totality" psychology, which is slighted by the elementarism of statistics. The method of appraisal (*Wertigkeitsbestimmung*) deals with relations other than simple dependence, in all cases which lack rank order arrangement but nevertheless constitute a cohesive whole. This method is illustrated by application to the relation between vocational choice and constitutional type, which does not yield sig-

nificant correlations. It may be refined in various ways. Where correlation is fruitful it affords more complete analysis.—*H. D. Spoerl* (Northeastern).

707. Higginson, G. D. Sensation, stimulus, and meaning. *J. Phil.*, 1935, 32, 645-650.—In order to take its place as a science psychology must realize that its problems are functional. Physical and chemical causal factors are involved, but that which is distinctively psychological is what emerges when the brain functions. The concept of the stimulus as a physical agent should be discarded. The stimulus, whether in normal or abnormal cases, is always a meaningful situation. Sensation as a simple mental element and perception as derivative are similarly misleading. There is no meaningless sensation on which perception is based. Properties are meaningful characteristics which occur when the brain functions under certain conditions. Meaning is an observed property, not something added to sensation or imagery. By working at the meaningful level psychology will have a definite field of its own.—*E. T. Mitchell* (Texas).

708. Holsopple, J. Q. A new rotating chair for vestibular stimulation. *Psychol. Bull.*, 1935, 32, 570.—Abstract.—*J. F. Dashiell* (North Carolina).

709. Montpelier, G. de. A propos de l'objet de la psychologie expérimentale. (The object of experimental psychology.) *Rev. néo-scolast. Phil.*, 1935, 38, 324-328.—The author believes that there is no irreducible conflict between introspectionism and behaviorism. There is rather a misunderstanding and an "illusion" at the base of their quarrel. Introspectionism is wrong in making the object of science the individual and subjective aspect of mental life, for this is incommunicable. It is however partially manifested in external behavior by the objective signs of mimicry and language. The difficulties arising from the inexactitude of language and from the uniqueness of the observer are not insurmountable. The first illusion of behaviorism is to imagine that introspection does something other than analyze behavior. Its second illusion is to believe that the incommunicable is non-existent, a view not concurred in by the author.—*R. Nihard* (Liège).

710. Paulus, J. La psychologie de M. Pierre Janet. (The psychology of Pierre Janet.) *Rev. Phil., Paris*, 1935, 35, 108-143.—A review of the publications of Janet shows that the ideal of French psychology for the past 50 years is realized in his doctrines, an ideal which emphasizes as the subject of psychology the total conscious and acting organism. The author has but one wish, viz., that Janet would consent to revise his position on mysticism and religion, since the principal theses of his psychology project themselves rather naturally in the direction of spiritualism.—*M. H. Piéron* (Sorbonne).

711. Popova, T. C., Mogilanskaya, Z. W., & Bernstein, N. A. [Technique for the study of movements. A practical manual of cyclogrammetry.] Leningrad. Moscow: 1934. Pp. 560.—A manual for moving picture studies of industrial or athletic activities, covering the techniques of recording in two or three

dimensions, and of analyzing the results with particular reference to changes in the center of gravity. Illustrations of the use of this method.—*H. E. Burt* (Ohio State).

712. Ramsperger, A. G. Some problems for a relativist. *J. Phil.*, 1935, 32, 589-596.—Relativism has advantages over dualisms and positivism but contains difficulties which must be removed. It maintains that in experience we are aware of things in certain relationships. These things exist also in other relations. But if all things are conditioned by their relations to other things it might seem that the terms related would be reduced to nothing. Actually, however, the points of view of two observers may be so similar that the difference is negligible as compared with the distinction between the object and its environment. Without such clearly marked off objects no observer could begin an investigation. This view admits, then, that there are ultimate differences in the world which are not reducible to relationships. It maintains, however, that we never know things-in-themselves. Knowledge consists in the discovery of the relationships among objects which determine what their experiential characters will be.—*E. T. Mitchell* (Texas).

713. Real, W. Introduction à la psychologie de L. Klages. (Introduction to the psychology of L. Klages.) *Arch. Psychol.*, Genève, 1934, 24, 372-374.—The psychology of Klages is based on the study of movement and of form of expression as an external realization of an inner image, which may thus be subsumed under abstract psychological reflection.—*M. R. Lambercier* (Geneva).

714. Rock, R. T. A mechanical scoring device for multi-keyed multiple-choice tests. *Psychol. Bull.*, 1935, 32, 681.—Abstract.—*J. F. Dashiell* (North Carolina).

715. Seashore, R. H. A revised classification of experimental methods in psychology. *Psychol. Bull.*, 1935, 32, 674.—Abstract.—*J. F. Dashiell* (North Carolina).

716. Sériex, P. V. Magnan (1835-1916). *Ann. méd.-psychol.*, 1935, 93, Part 1, 713-714.—V. Magnan was at the Saint Anne mental hospital for nearly half a century. He contributed much to the knowledge of mental diseases through his research, teachings, humane treatment of patients, and classification of mental diseases.—*M. B. Mitchell* (New Hampshire State Hospital).

717. Simon, T. Magnan dans son service de l'admission à l'asile Sainte-Anne. (Magnan in his admission service at the Saint Anne Hospital.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 715-728.—Magnan was always very aggressive toward his colleagues. He enjoyed having visitors and put himself out to show them about. With his patients he was always submissive and affectionate; therefore he was able to obtain many details of their history and mental condition when others failed. His form of questioning was very informal and seemed rambling, but he was able to get the essentials. He diagnosed general paresis

before the lumbar puncture was used. Magnan's name is associated with the term "mental deterioration," although he did not originate it. He first used it in 1885 to include cases later called dementia praecox by Kraepelin and psychasthenia by Janet. To the end he fought the newer terminology. His mental deterioration or degeneration is similar to the term schizophrenia, which is replacing dementia praecox. Mental degeneration and schizophrenia both emphasize the ideation in contrast to the more overt behavior in dementia praecox.—*M. B. Mitchell* (New Hampshire State Hospital).

718. Smith, K. U. Apparatus for the study of sensory discrimination in mammals. *Science*, 1935, 82, 423-425.—A method permitting the elicitation and objective recording of responses which has been found to be well suited to the analysis of all phases of the visually controlled behavior of the cat is described. The results obtained by this method "indicate that the apparatus has the advantage not only of eliciting an unequivocal response which can be demonstrated to be a function of the differential stimuli to be presented, but also of providing general experimental conditions that are readily modifiable for different types of investigation and easily controlled."—*R. Goldman* (Clark).

719. Stern, W. Allgemeine Psychologie auf personalistischer Grundlage. (General psychology on the basis of personalistics.) The Hague: Nijhoff, 1935. Pp. xviii + 831.—This general psychology, of which one instalment appeared separately (see IX: 3080) is now published in a single volume. Parts 4, 5, and 6 cover thought and imagination, action and will, and feeling. There is a bibliography of about 600 titles. Familiar trends in psychology are given novel significance by personalistics in treating the so-called higher processes as well as the other material and problems. Stern's views on play, human productivity, and fantasy, as well as his theory of dispositions, are presented in concise form.—*H. D. Spoerl* (Northeastern).

720. Stevens, S. S. The operational definition of concepts. *Psychol. Rev.*, 1935, 42, 517-527.—The principles of operationism provide a procedure by which the concepts of psychology can be tested. Concepts, to have meaning, must stand for definite, concrete operations, capable of execution by normal human beings. Four major concepts are analyzed for illustration—existence, experience, sensation, and tonal density. The first, existence, which is fundamental to the notion of definition itself, reduces to "differential response to." Thus to say "the earth exists," means "normal beings make certain differential responses to it as stimulus." The second, experience, reduces to "the sum total of the discriminatory reactions of human beings." Experience must therefore be a construct, not an ultimate matrix as is often claimed. The third concept, sensation, reduces to "a differential reaction, by an organism, to stimulation of a sense organ, which varies concomitantly with changes in the stimulus." The fourth concept, tonal density, in so far as it was

initially meaningless to the subjects required the use of the method of successive approximation before it could be submitted to operational test. It is recommended that all psychological concepts be constantly subjected to such tests to keep them valid.—*A. G. Bills* (Chicago).

721. Szuman, S., & Skowron, S. *Organizm a życie psychiczne*. (The organism and its relation to psychical life.) Warsaw: Nasza Księgarnia, 1934. Pp. 424. 8.50 zloty.—This book is an introduction to biopsychology, and discusses fundamental problems concerning the biological bases of psychical life. The authors (one of whom is a psychologist and physician, the other a zoologist) show the importance of the ductless glands for psychical life, the problem of inheritance, instincts, learning, acquisition of experience, as well as the evolution of man and of his consciousness; finally, they consider man as a "super-biological being." The entire treatise takes into account the latest discoveries and theories in both biology and psychology, and is written for psychologists, pedagogues, biologists, and physicians.—*L. J. Bykowski* (Poznań).

722. Valentine, W. L., Taylor, J. H., Baker, K. H., & Stanton, F. N. *Student's guide for beginning the study of psychology*. New York: Prentice-Hall, 1935. Pp. viii + 267. \$2.35.—This work book is a complete revision of Valentine's *Laboratory Manual*. It contains 42 units with 117 exercises. The experimental material of introductory psychology is covered by various means designed to eliminate routine laboratory procedure, while emphasizing the use of scientific method in concrete situations. Blanks are furnished for entering all details of the prescribed work. Demonstrations to accompany the use of this book include many psychological films. Covers are of heavy paper with spiral binding.—*H. D. Spoerl* (Northeastern).

723. Walker, J. F. The pantograph as an instrument for studying kinaesthesia. *Amer. J. Psychol.*, 1935, 47, 691-692.—*D. E. Johannsen* (Skidmore).

724. Walker, R. Y. Parallel recording of vertical and horizontal oscillations by means of an erecting prism. *Amer. J. Psychol.*, 1935, 47, 696-697.—*D. E. Johannsen* (Skidmore).

725. Wallon, H. 25^e anniversaire de la mort de Frédéric Rauh. (The twenty-fifth anniversary of the death of Frédéric Rauh.) *Bull. Soc. franç. Phil.*, 1934, 34, 64-71.—The author shows that Frédéric Rauh, the metaphysician, was really a precursor of experimental psychology. Rauh never admitted the separation, introduced by Bergson, between scientific relativity and immediate intuition, but he always endeavored in his study of psychological facts to integrate the precise quantitative ideas, though static in nature, of traditional psychology and the ideas of becoming.—*M. H. Piéron* (Sorbonne).

726. Wheeler, R. H. Gestalt psychology in the light of history. *Psychol. Bull.*, 1935, 32, 548.—Abstract.—*J. F. Dashiell* (North Carolina).

[See also abstracts 860, 957, 1094, 1171.]

SENSATION AND PERCEPTION

727. Baier, D. E. The loudness of complex sounds. *Psychol. Bull.*, 1935, 32, 567-568.—Abstract.—*J. F. Dashiell* (North Carolina).

728. Balke, K. Ueber das subjektive Abgrenzen von Intervallen. (Concerning the subjective limitation of intervals.) Zeulenroda: Sporn, 1935. Pp. 31.—*R. R. Willoughby* (Clark).

729. Baudouin, A., Halbron, P., & Desparis, M. L'hémianopsie binasale. (Binasal hemianopia.) *Rev. neurol.*, 1934, 41, 531-554.—The authors review their own personal observations and then summarize, with reproductions of the visual fields, various other observations of this affection. They use the term binasal hemianopia to denote a heteronymous hemianopia characterized by a loss of the nasal visual field for both eyes. This may be total or partial. The point is stressed that binasal hemianopia is only a symptom. They review the disorders in which hemianopia has been found: cerebral tumors, opto-chiasmatic arachnoiditis, syphilis, arteriosclerosis, traumatism, and intoxication. A bibliography of 35 titles is given.—*M. H. Piéron* (Sorbonne).

730. Biancani, E., Biancani, H., & Dognon, A. Les ultra-sons et leurs actions biologiques. (The ultra-sounds and their biological action.) *J. Physiol. Path. gén.*, 1934, 32, 1083-1106.—The ultra-sound waves are elastic vibrations of material media the frequency of which is above the limits of auditory perception. The authors discuss the methods of producing these sounds, their general properties, their effect when interrupted, and their biological action. They point out the neuromuscular phenomena to which these ultra-sounds give rise, especially the following: when the experimenter plunges a finger into a vibrating bath, he experiences, besides an impression of internal warmth, a painful sensation which is particularly vivid at the level of the root of the finger nail. A short bibliography is given.—*M. H. Piéron* (Sorbonne).

731. Bordier, H. Les effets chatoyants de la moire sont les résultats d'une imperfection de notre acuité visuelle. (The glistening effects of watered silk are the results of an imperfection in our visual acuity.) *Paris méd.*, 1934, 24, 535-536.—Moire is a term given to a material with changing and wavy reflections. This moire appearance is due to an imperfection in our visual acuity which prevents us from seeing distinctly the apex of the angles because each side of these angles in the moire designs produces circles of diffusion on the retina.—*M. H. Piéron* (Sorbonne).

732. Bray, C. W., Wever, E. G., & Horton, G. P. The problem of localization in the cochlea. *Psychol. Bull.*, 1935, 32, 724.—Abstract.—*J. F. Dashiell* (North Carolina).

733. Buddenbrock, W. v. Die Physiologie des Facettenaugen. (The physiology of compound eyes.) *Biol. Rev.*, 1935, 10, 283-317.—The mode of action of the compound eye is briefly reviewed. After briefly dealing with the single ommatidium as a physiological unit, the remainder of the paper is concerned with

the comparison of eyes in arthropods as to color vision, reflexes, form-vision, etc. No evidence is found for progressive development of the compound eye from a lower to a higher type in the various classes of arthropods. Some 80 references on visual functions in arthropods are cited. Summary in English.—*M. A. Rubin* (Clark).

734. Bujas, Z. *Le temps de réaction aux excitations électriques des récepteurs gustatifs.* (Reaction times to electrical stimulations of the gustatory receptors.) *C. R. Soc. Biol., Paris*, 1935, 119, 716-718.—The experimental set-up included a source of current, a potential reducer, and non-polarizable electrodes of silver chloride dipped in water and held in contact with the tongue by means of agar-agar pads. Time was registered with a d'Arsonval chronometer. Stimulations were made with the closing of the anode and the opening of the cathode. The results agree with the hyperbolic law of Piéron. The rate of decrease in reaction time with closure of the anode is approximately like that obtained by stimulating the tongue with organic acids.—*M. H. Piéron* (Sorbonne).

735. Bujas, Z. *Le rapport entre les quantités liminaires et le temps d'action pour les excitations gustatives.* (The relation between liminal quantities and the action time of gustatory stimuli.) *C. R. Soc. Biol., Paris*, 1935, 119, 835-837.—The author repeated the previous studies of this problem utilizing a more precise method of recording the duration of stimulation. This method made it possible to mark electrically the passage of the water bubble which separated the rapid solution from the water without having the current traverse the liquid. The stimulations were made with Piéron's apparatus, and time was recorded with a lamella vibrating 15 times per second. The limits of summation and the lower threshold secured are comparable to those previously found; but the liminal quantity increases according to Piéron's hyperbolic law, which has already proved valuable for visual, auditory and thermal sensations.—*M. H. Piéron* (Sorbonne).

736. Cason, H. *An attempt to modify the physiological influence of one sensory process on another.* *Psychol. Bull.*, 1935, 32, 731.—Abstract.—*J. F. Dashiell* (North Carolina).

737. Chapman, D. W. *A study of simultaneous perceptual articulations.* *Psychol. Bull.*, 1935, 32, 741.—Abstract.—*J. F. Dashiell* (North Carolina).

738. Collin, R. *Leçons sur les récepteurs de la sensibilité.* (Lectures on the sensory receptors.) Nancy: G. Thomas, 1935. Pp. 284. 20 fr.—The volume contains 23 lectures given to the students of the Faculty of Medicine at Nancy. The first two lectures deal with sensitivity in general. Eight lectures treat of the receptors for general sensitivity, both superficial and deep. The remaining lectures concern the special senses.—*M. H. Piéron* (Sorbonne).

739. Conner, J. P., & Ganoung, R. E. *An experimental determination of the visual thresholds at low values of illumination.* *J. opt. Soc. Amer.*, 1935, 25, 287-294.—A study of the mutual relations between

background luminosity, contrast, and visual acuity at luminosities of 0.0001 to 1.0 lumen per square foot. Range of contrast was from 1.77 to 92.9%. The broken circle was used and 4.5 correct answers out of 8 trials was taken as threshold criterion. Exposure time was of the order of 3 seconds, long enough to permit determination of maximum acuity. Observations were binocular with natural pupils. With constant contrast, curves of acuity plotted against background luminosity are straight lines above about 0.017 lumen per square foot; below 0.002 lumen, curves are also straight lines; but in the intermediate portion where both rods and cones are acting, the curves are not straight lines. Curves for foveal vision only (red light stimulus) are straight lines, indicating that cone acuity bears a linear relation to background luminosity throughout the range investigated. In parafoveal vision, where acuity was separately determined, curves were straight lines for lower contrasts and also for higher contrasts at greater luminosities, indicating that rods alone were active in the low range while cones dominated at the higher levels. The slope for rod vision is found to be less than that for cone vision. At the lower luminosities, the data agree very well with those of König for a totally color-blind observer.—*M. R. Stoll* (Massachusetts Eye & Ear Infirmary).

740. Copeland, H. A. *Occupational differences in color blindness.* *J. appl. Psychol.*, 1935, 19, 490-492.—The Ishihara test for color blindness yields the following percentages of defect for various occupational groups tested at the Cincinnati employment center: union painters 3.88, non-union painters 8.03, total painters 6.7, truck drivers 6.7, and chauffeurs 6.0. A table is presented showing figures on general populations and on salesmen by other investigators.—*R. S. Schultz* (Psychological Corporation).

741. Culler, E. *Mapping the cochlea.* *Psychol. Bull.*, 1935, 32, 722-723.—Abstract.—*J. F. Dashiell* (North Carolina).

742. Durup, G. *Recherches comparatives sur les qualités de la lumière blanche et du jaune "Yvel" dans l'emploi des projecteurs.* (A comparative study of white and yellow light in headlights.) *Travail hum.*, 1935, 3, 257-282.—The experiment was arranged so that one headlight illuminated the test object and another was focussed toward the subject to produce glare. The intensities were under control and lenses varied to produce white or yellow light. Acuity was slightly greater with the yellow light, although negligibly so with some subjects. The average difference was 3%. Yellow produced more glare when focussed directly on the eye, but the white produced slightly more glare when in the periphery. With both test objects and glare of the same color, white was slightly superior for direct vision and yellow when the glare was peripheral.—*H. E. Burt* (Ohio State).

743. Fry, G. A., & Robertson, V. M. *The physiological basis of the periodic merging of area into background.* *Amer. J. Psychol.*, 1935, 47, 644-655.—"The theory has been proposed that the essential

condition for the periodic merging of a visually apprehended area into its background is the building up and breaking down of the process at the retinal synapses which subserves border-contrast, rather than the fatigue of the photoreceptors and the relief of fatigue by eye-movements. The proof of this proposition has been based upon two facts. (1) The periodic merging of an area is affected by varying stimulus factors, such as the blurredness at the border. . . . (2) Under certain conditions borders in different parts of the field build up and break down alternately. The effect can only be attributed to a sort of rivalry which involves the interaction of the retino-cortical paths."—*D. E. Johannsen* (Skidmore).

744. Gardner, W. A. Influence of the thyroid gland on the consciousness of time. *Amer. J. Psychol.*, 1935, 47, 698-701.—125 patients from the Thyroid and Medical Clinics of Presbyterian Hospital were required to estimate the time interval which elapsed between two rings of a bell (actual duration, 45 sec.). They were then asked to ring the bell themselves twice, with an interval of 60 sec. The patients were classified into 6 groups on the basis of their physical condition and the average judgments for the time-interval were computed. It was found that there was no correlation in either the active or the passive tests between the estimation of time and age, pulse rate, or basal metabolism, or with the effects of surgery.—*D. E. Johannsen* (Skidmore).

745. Geblewicz, E. La relation du temps d'action liminaire avec l'intensité, pour les stimulations thermiques. (The relation of the time of liminal action to intensity with thermal stimuli.) *C. R. Soc. Biol., Paris*, 1935, 118, 748-750.—The apparatus employed consisted of an electric radiator with a parabolic mirror, a sectored disk rotated in front of the radiator and having an opening which varied from zero to 180°, an ammeter, and a rheostat for maintaining a constant intensity. Thermal cutaneous stimulation has a summation limit, a "utilizable time" particularly long with man. As in light stimulation, there is a parabolic law of the relation between liminal quantities and the duration of stimulation.—*M. H. Piéron* (Sorbonne).

746. Graham, C. H., & Margaria, R. Area and the intensity-time relation in the peripheral retina. *Amer. J. Physiol.*, 1935, 113, 299-305.—When the retinal area was sufficiently reduced the energy curve for threshold response was shown to be similar to that obtained with a single cell of the eye of *Limulus*. The failure of the relationship with large areas is attributed to "incomplete spatial summation," i.e., to the fact that the threshold is essentially determined by the central group while there is little contribution from the energy expended on peripheral fibers.—*T. W. Forbes* (N. Y. Psychiatric Institute).

747. Hartson, L. D. Relationship between apparent movements and actual movements. *Psychol. Bull.*, 1935, 32, 739-740.—Abstract.—*J. F. Dashiell* (North Carolina).

748. Hecht, S., Haig, C., & Wald, G. The dark adaptation of retinal fields of different size and

location. *J. gen. Physiol.*, 1935, 19, 321-339.—The increase of sensitivity of the eye during dark adaptation proceeds in two steps. The first is rapid, short in duration, and small in extent. The second is slow, prolonged, and large. In the case of centrally located fields the two stages of adaptation change differently with area. As a result of the study of these changes, it is suggested that the behavior in dark adaptation of centrally located fields of different size is mainly determined by the fact that the retina gradually changes in sensitivity from center to periphery, and therefore the larger the field the farther it reaches into peripheral regions of permanently greater sensitivity.—*M. A. Rubin* (Clark).

749. Heiser, F. The effects of tattooing and of increased blood supply upon the distribution of cutaneous warmth spots. *Psychol. Bull.*, 1935, 32, 710.—Abstract.—*J. F. Dashiell* (North Carolina).

750. Hoagland, H. Adaptation of cutaneous tactile receptors. III. *J. gen. Physiol.*, 1935, 19, 221-229.—The author presents further experimental evidence that sensory adaptation of tactile receptors in frog's skin is due to a neurohumor released from the non-nervous cells of the skin when they are pressed upon. The spread of adaptation, as measured by the failure of a region (B) adjacent to the stimulated region (A) to respond after complete adaptation of (A), is probably the result of the vibratory movement of the skin caused by the intermittent air-jet stimulation. Adaptation is not produced by electrically initiated antidromic impulses backfired into the axon branches. The time curves for recovery from adaptation are inconsistent with any known properties of isolated nerve.—*M. A. Rubin* (Clark).

751. Hoffeditz, E. L., & Guilford, J. P. The factors present in the fluctuations of fifteen ambiguous phenomena. *Psychol. Bull.*, 1935, 32, 726-727.—Abstract.—*J. F. Dashiell* (North Carolina).

752. Howells, T. H. A study of ability to recognize faces. *Psychol. Bull.*, 1935, 32, 726.—Abstract.—*J. F. Dashiell* (North Carolina).

753. Kelly, E. L. The effect of previous experience and suggestion on the perception of apparent movement. *Psychol. Bull.*, 1935, 32, 569-570.—Abstract.—*J. F. Dashiell* (North Carolina).

754. MacAdam, D. L. The theory of the maximum visual efficiency of colored materials. *J. opt. Soc. Amer.*, 1935, 25, 249-252.—The term "visual efficiency" is used here to represent interchangeably the concepts of visual transmission factors of filters and of visual reflection factors of reflecting surfaces. Fluorescent substances are excluded from consideration. A material exhibits hue because visible radiation in some wave-length bands is more or less completely absorbed. This partial absorption of incident energy, necessary for the appearance of hue, obviously decreases the visual efficiency below the unit efficiency characteristic of a non-absorbing, hueless, white material. Of all the conceivable spectrophotometric curves of material exhibiting a given chromaticity when illuminated with light of a specified quality,

there must be at least one which yields a maximum value for the visual efficiency. This paper describes the general type of spectrophotometric curve which is known to have this unique property. A new proof of the validity and uniqueness of this type of curve is presented. This proof takes advantage of the simplifications made available by the adoption of the I.C.I. 1931 coordinate system for colorimetry.—*D. L. MacAdam.*

755. Max, L. W. The effect of continuous auditory stimulation on the residual hearing of deaf-mutes. *Psychol. Bull.*, 1935, 32, 568.—Abstract.—*J. F. Dashiell* (North Carolina).

756. Meerloo, A. M. Über Entwicklung und Störung des Zeitsinns. (Development and disturbance of the time sense.) *Z. ges. Neurol. Psychiat.*, 1935, 153, 231-241.—The writer considers the time sense as developing continuously through four successive stages: (1) the primitive time sense, which simply locates a point in the time line; (2) the time feeling, which estimates parts from the time line; (3) the gnostic time sense, which arranges events in order along the time line; and (4) the dynamic experiencing of duration and continuity. Some disorders, drawn from pathological findings, are described, and some consideration is given to the anatomical substrata.—*C. W. Fox* (Rochester).

757. Monnier, M. De la pupille considérée comme révélateur des corrélations fonctionnelles entre le système animal et le système végétatif. (On the pupil considered as an indicator of the functional correlation between the animal and the vegetative systems.) *Rev. neurol.*, 1935, 42, 671-683.—The irido-pupillary apparatus was submitted to the influence of a number of somatic and psychological factors. The phenomena could be, on the one hand, kinetic (pupillary movements and effects which the author termed miosis) or, on the other hand, static (pupillary states, termed myoma). The miotic pupillary movements were found whenever a protective reaction took place in the organism, while states of permanent constriction (myoma) were found whenever the organism performed a restitutive action for the purpose of elaboration, conservation, or renewal of the cells (sleep, digestion, etc.).—*M. H. Piéron* (Sorbonne).

758. Newhall, S. M. The measurement of after-images. *Psychol. Bull.*, 1935, 32, 741-742.—Abstract.—*J. F. Dashiell* (North Carolina).

759. Nickerson, D. Disk colorimetry; including a comparison of methods for computing tristimulus values for certain disks. *J. opt. Soc. Amer.*, 1935, 25, 253-257.—This report provides a certain amount of information necessary for careful work with the disk method of colorimetry. Color temperatures are given for lamp and filter combinations of available instruments. Tristimulus specifications are given: for several Munsell papers under I.C.I. standard illuminants; for certain glossy papers under diffuse and 45° directional illumination; for colors made in the Munsell laboratory to match other colors when it was necessary to use different pigments; for several

methods of computation, by summation for 5 and 10 mμ intervals, and by 10 and 30 selected ordinates; for curves differing slightly from each other; and for color differences significant in cotton grading. These last-mentioned figures are given as a basis for the comparison of the significance of all of the other differences.—*D. Nickerson.*

760. Oberlin, K. W. Kinesthetic sensitivity with wide variation of the stimulus values. *Psychol. Bull.*, 1935, 32, 713-714.—Abstract.—*J. F. Dashiell* (North Carolina).

761. Ochapovsky, S. Genesis of the refraction of the human eye. *Arch. Ophthalm.*, Chicago, 1935, 14, 412-420.—Disagreeing with the view that myopia is frequently a consequence of excessive close work, the author discusses the ontogenetic, phylogenetic, and sociogenetic factors involved. The normal hyperopia of infancy tends to approach emmetropia and may pass into myopia with growth. The adult refraction is determined primarily by heredity. Myopia, which would incapacitate man in primitive societies and would there tend to be selectively eliminated, would become even advantageous with the development of more scholarly or sedentary occupations, particularly in presbyopia. Thus in early civilizations refractive error would tend to determine choice of occupation; subsequently, social and hereditary factors would combine to make myopia of more frequent occurrence in groups following a scholarly tradition or engaged in fine craftsmanship. Not more hygienic conditions of working, but the opening of the schools to the masses is responsible for the recent greater proportion of hyperopes in the higher educational institutions of Europe, according to the author.—*M. R. Stoll* (Massachusetts Eye & Ear Infirmary).

762. Onfray, R., & Petit, P. J. Chromatisme et sécurité. Les tables d'Ishihara. (Chromatism and security. The tables of Ishihara.) *Ann. oculist.*, Paris, 1935, 172, 213-221.—After a discussion of the merits and defects of the various color blindness tests, it is concluded that the tables of Ishihara give the method which is most certain, easiest to utilize, and least criticized for the discovery of all degrees of chromatic deficiency.—*M. H. Piéron* (Sorbonne).

763. Peckham, R. H. An objective study of binocular fusion: preliminary report. *Psychol. Bull.*, 1935, 32, 713.—Abstract.—*J. F. Dashiell* (North Carolina).

764. Pennington, L. A. The function of the brain in sound localization. *Psychol. Bull.*, 1935, 32, 745.—Abstract.—*J. F. Dashiell* (North Carolina).

765. Pfeifer, M. Die subjektiven Eichungen der einem Ton-Interferenzsystem bei Abstufung der Phasendifferenz zu entnehmenden Intensitäten als psychophysische Aufgabe. (The subjective gauging of a tone-interference system with grading of the phase difference during decreasing intensity as the psychophysical task.) Leipzig: M. Fischer, 1935. Pp. 63.—*R. R. Willoughby* (Clark).

766. Purdy, D. M. The structure of the visual world. II. The action of motor impulses on sensory

excitations. *Psychol. Rev.*, 1935, 42, 528-536.—The hypothesis is advanced that the sensory and motor processes of vision form an intercommunicating system, in which the sensory control the motor and the motor can react on the sensory. Certain anomalies of strabismic vision result in displacement of sensory excitations in the brain. Schumann found that concentration of attention by normal subjects on a peripheral point causes foveal after-images to appear double. Goldstein and Jablonski's results show that a motor disturbance can directly affect the distinctness of vision.—*A. G. Bills* (Chicago).

767. Raney, E. T. A phi-test for the determination of lateral dominance involving the visual perception of movement. *Psychol. Bull.*, 1935, 32, 740.—Abstract.—*J. F. Dashiell* (North Carolina).

768. Röse, J. Schwerhörigkeit und Stammeln. (Deafness and stammering.) Marburg: (Phil. Diss.), 1935.—The author argues that hearing is of great importance in the retention as well as in the acquisition of speech; that hearing and speech undergo a parallel development; and that the acoustic world of the deaf is not only narrower than, but entirely different from, the normal. He points out the relation between stammering errors and deafness, particularly between lisping and deafness in the upper tonal range. An analysis of 173 cases of speech defect is offered, and the conclusion is reached that deafness is an important factor in the genesis of stammering errors.—*H. Loebell* (Marburg).

769. Ross, R. T. Foveal fusion frequency as a function of effective cone population. *Psychol. Bull.*, 1935, 32, 712.—Abstract.—*J. F. Dashiell* (North Carolina).

770. Shen, N. Simultaneous lifting of equally heavy weights by both right and left hands. *J. exp. Psychol.*, 1935, 18, 544-561.—The problem was: when both right and left hands are presented with equally heavy weights, will one of the hands, the preferred or the non-preferred, tend constantly to pass more judgments in one category—"lighter," "equal," or "heavier"—than the other? "Physically equally heavy weights were judged as equal in only 27.4 percent on the average, showing that they are far from being entirely psychologically equally heavy. Furthermore, half of the subjects gave more 'right heavier' than 'left heavier' and half of them more 'left heavier' than 'right heavier' judgments in response to the equally heavy pairs, while theoretically both RH and LH judgments if given at all, should be equally distributed. This preponderance of either RH or LH judgments was statistically significant in most cases. With our technique of testing, handedness does not seem to have appreciable effect on the relative frequency of either heavier or lighter judgments of a pair of weights lifted simultaneously by both hands, because the weights used are all perhaps too light and hence below the threshold of bilateral discrimination of the two hands. It is suggested that either smaller (in size) or heavier weights may perhaps be more favorable to handedness difference in lifting weight experiments."—*H. W. Karn* (Pittsburgh).

771. Smith, J. R. Retinal and central components of human brightness discrimination. *Psychol. Bull.*, 1935, 32, 711-712.—Abstract.—*J. F. Dashiell* (North Carolina).

772. Starr, H. E. A study of experimentally induced projection of visual imagery. *Psychol. Bull.*, 1935, 32, 742.—Abstract.—*J. F. Dashiell* (North Carolina).

773. Stevens, S. S. The localization of pitch perception on the basilar membrane. *Psychol. Bull.*, 1935, 32, 723-724.—Abstract.—*J. F. Dashiell* (North Carolina).

774. Turner, W. D. The role of postural reactions in visual orientation. *Psychol. Bull.*, 1935, 32, 694-695.—Abstract.—*J. F. Dashiell* (North Carolina).

775. Van Cleve, E. M. Provisions for the schooling of the blind and partially blind. *Arch. Ophthalmol., Chicago*, 1935, 14, 472-480.—A general description of the work at the New York Institute for the Education of the blind.—*M. R. Stoll* (Massachusetts Eye & Ear Infirmary).

776. Villey, P. Psychologie et pédagogie des aveugles. (Psychology and pedagogy of the blind.) *Rev. phil.*, 1935, 60, 1-42.—The author, a philosopher and blind himself, whose initiation into psychology dates from the time of associational atomism, remarks how inadequate such a point of view is for the psychology of the blind. After reviewing foreign works dealing especially with spatial images and the pedagogy of the blind, the author studies the intelligence of the blind, who are certainly susceptible of a complete intellectual development. This latter fact proves that the elementary notions of light and color are not indispensable for intelligence and mental synthesis. The role of touch in the notion of space is stressed, and an account of visual and tactual space is given. The author stresses the fact that an individual born blind who suddenly recovers his sight is not like a deaf person who is suddenly cured and of whom an auditory discrimination is demanded between two musical instruments which he has previously known only by sight. The blind person needs only intelligence in order to analyze from visual sensations the space which he has known and whose geometry has taught him spatial properties. "Between the sphere and the cube, a blind geometer would quickly note the difference, knowing that all points are symmetrical in the sphere but not in the cube."—*M. H. Piéron* (Sorbonne).

777. Wald, G. Carotenoids in the visual cycle. *J. gen. Physiol.*, 1935, 19, 351-373.—Visual purple is synthesized in the retina from vitamin A, which is present in the choroid and pigment layers of the eye, plus a protein. It breaks down into visual yellow, which subsequently forms retinene. In light the retinene reforms into visual purple. Some of the visual yellow breaks down to form vitamin A and protein and is again converted into visual purple or carried away by the blood circulation. Thus in a cycle, vitamin A is the precursor as well as the product of decomposition of visual purple. The

reactions of these substances in the visual processes are described.—*M. A. Rubin* (Clark).

778. Weber, C. O. The constancy correction for size and shape in stereoscopic space. *Psychol. Bull.*, 1935, 32, 739.—Abstract.—*J. F. Dashiell* (North Carolina).

779. Wolsky, A. Stimulationsorgane. (Stimulatory organs.) *Biol. Rev.*, 1933, 8, 370-418.—A great many of the sense organs have, in addition to their function as receptors, a stimulatory action on some other process than the one with which they are directly concerned. Lengthy bibliography. English summary.—*M. A. Rubin* (Clark).

[See also abstracts 692, 705, 718, 812, 815, 819, 820, 822, 836, 871, 886, 893, 896, 900, 903, 904, 914, 919, 922, 923, 936, 937, 945, 951, 952, 953, 955, 959, 988, 1024, 1101, 1243.]

FEELING AND EMOTION

780. Adams, G. Don't be afraid. New York: Covici, Friede, 1935. Pp. 188. \$2.00.—*R. R. Wiloughby* (Clark).

781. Bornstein, B. O patologicznych reakcjach wzruszeniowych. (Concerning pathological emotional reactions.) *Roczn. psychjat.*, 1935, 24, 6-14.—It is difficult to decide whether a psychical reaction has a pathological character or falls within normal limits, for the reaction may be only apparently aimless and harmful. The majority of emotional states accompany many-patterned somatic responses, though some (like narcolepsy) are single-patterned. Certain psychical states depend on neurological changes that manifest themselves most strongly in neurotic states. Emotion can take the place of an organic factor and change the tonicity of the system. Variations in the emotional sphere are also dependent on biochemical changes.—*T. Nowakowski* (Poznan).

782. Darrow, C. W. Emotion as relative functional decortication: the role of conflict. *Psychol. Rev.*, 1935, 42, 566-578.—Blood pressure has been found to be the most sensitive of the physiological changes to disturbing ideas, and hence to cortical activity, even though the immediate mechanism of emotion is subcortical and that of the cortex is to differentiate stimulus patterns and exert an inhibiting influence on subcortical regions. The explanation offered is that when conflicting perceptual and ideational excitations of the cortex occur, the resulting conflict interferes with the inhibitory function of the cortex and thereby releases the subcortical emotional patterns. It is emphasized that the theory applies only to "dynamic" conflict, and that further research is necessary to determine whether repressed conflict plays a similar role.—*A. G. Bills* (Chicago).

783. Dimmick, G. B. Consistent behavior, a correlate of hedonic tone. *Psychol. Bull.*, 1935, 32, 738-739.—Abstract.—*J. F. Dashiell* (North Carolina).

784. Hevner, K. Experimental studies of the affective value of colors and lines. *J. appl. Psychol.*, 1935, 19, 385-398.—Undergraduates in psychology in groups ranging from 40 to 45, about two-thirds

women, participated in these experiments. Four designs involving different line qualities were presented in either blue or red, and subjects checked from a printed list all adjectives appropriate to the design. Different line qualities—circles, squares, angles and waves—were studied by the same method for designs and pictures. Results are as follows: (1) red is happy and exciting, blue is serene, sad and dignified; (2) curves are serene, graceful, and tender-sentimental, angles are robust, vigorous and somewhat more dignified.—*R. S. Schultz* (Psychological Corporation).

785. Hodge, F. A. The emotions in a new role. *Psychol. Rev.*, 1935, 42, 555-565.—An analysis of the neurological and physiological bases of the emotions shows them to be emergency reactions to perceptual situations with which the cortical patterns are unable to cope. The strength of their emotions has been inversely proportional to the ability of the higher centers to meet the situations. Hence they gave the perceptions their feeling-tone. But since the emotion creates the demand for better adjustment, it has a very definite role in leading to more efficient modes of expression. Emotions will not wholly disappear with the advancement of culture, but will be modified so that their teleological role will be preserved, while the disruptive effect of their cruder patterns will be removed.—*A. G. Bills* (Chicago).

786. Springer, N. N. Cardiac activity during emotion. *Amer. J. Psychol.*, 1935, 47, 670-677.—The problem of the present experiment was to determine the changes in the electrocardiogram, in form and time relations, under the stimulation of a sudden upsetting emotion. 22 male college students were the S's. The stimuli were an auto klaxon and the sudden tipping of the chair. Normal heart records both before and after the presentation of the stimulus were obtained. The results indicate that the apparent changes in the heart curve are due to extra-cardiac activity.—*D. E. Johannsen* (Skidmore).

787. Springer, N. N., & Roslow, S. A study in the estimation of feelings. *J. appl. Psychol.*, 1935, 19, 379-384.—A feeling data sheet based on Cason's work was used with a group of 133 male students in psychology. Two ratings were obtained 30 days apart on feeling tone during various times of the day, days of the week, months, and in relation to weather conditions. In general the results agree with Cason's previous study showing the average feeling tone levels as follows: (1) lowest during first and last half hours of the day; (2) lower on Monday than any other day of the week; (3) lowest in January, February and March; and (4) higher in spring and summer and lower in fall. Correlation between the two estimates 30 days apart ranged from .32 to .72 for the various items.—*R. S. Schultz* (Psychological Corporation).

788. Winterstein, A., & Bergler, E. Zur Psychologie des Pathos. (On the psychology of feeling.) *Imago, Lpz.*, 1935, 21, 311-319.—Pathos includes the emotionality of aggression, and is usually a sign of it. Strictly speaking, it is not a pre-adolescent phe-

nomenon, although it may be achieved in childhood by imitation. It signifies resentment of the super-ego and similar expressions of conflict.—*H. D. Spoerl* (Northeastern).

[See also abstracts 808, 891.]

ATTENTION, MEMORY AND THOUGHT

789. Calhoun, S. W. Influence of syllabic length and rate of auditory presentation on ability to reproduce disconnected word lists. *J. exp. Psychol.*, 1935, 18, 612-620.—Evidence is presented which shows that: "(1) When the interval between words increases, syllabic length remaining constant, the slope of the curves of ability to reproduce words auditorially presented, becomes more acute at ascending age levels, with a more and more prominent negative acceleration as the eighteenth year is approached. This negative acceleration first appears about the thirteenth year. (2) Ability to reproduce words auditorially presented is in an inverse relation to their syllabic length when rate of presentation remains constant. The mathematical ratios are not yet known."—*H. W. Karn* (Pittsburgh).

790. Calhoun, S. W. A comparison of ability to reproduce one-syllable words and digits auditorially presented. *J. exp. Psychol.*, 1935, 18, 621-632.—The author concludes from the evidence of the study: (1) that in confirmation of work previously reported, the number of one-syllable words reproduced after a short interval of time is largely uninfluenced by excessive length of the lists auditorially presented; (2) that this independence is consistently present throughout the age range 8-18 years; (3) that the digit span is longer consistently throughout the age range 8-18 years by more than 2.73 units; (4) that there is a differential relationship between ability to reproduce one-syllable words and ability to reproduce digits, which manifests itself in earlier acceleration in developing ability for digits, with a resultant earlier maturity of span; (5) that ten-digit lists are too short impartially to measure, statistically, the digit-span throughout the age range 8-18 years; (6) that data reported by other investigators, which has not taken the necessity of this longer list into account, cannot be expected to have described the true extent of the digit span.—*H. W. Karn* (Pittsburgh).

791. Claparède, E. M. Otto Selz et la genèse de l'hypothèse. (Otto Selz and the genesis of hypothesis.) *Arch. Psychol., Genève*, 1935, 24, 370-371.—Additional discussion on *Genèse de l'hypothèse* (*Arch. Psychol., Genève*, 1933, 24, 1-155) in response to Selz's criticism of that paper. (See VIII: 4914.)—*R. R. Willoughby* (Clark).

792. English, H. B. Further data on reminiscence. *Psychol. Bull.*, 1935, 32, 688.—Abstract.—*J. F. Dashiell* (North Carolina).

793. Faure-Fremiet, P. Le souvenir et la récréation du passé. (Memory and the recreation of the past.) *Rev. phil.*, 1935, 60, 167-198.—Although memory and invention have many traits in common, they differ greatly in that the former has a character

of necessity as opposed to the freedom of the latter. Invention creates. Memory recreates and leaves a feeling of realization, an actual recreation of something which is already past.—*M. H. Piéron* (Sorbonne).

794. Finch, G., & Culler, E. Relation of forgetting to experimental extinction. *Amer. J. Psychol.*, 1935, 47, 656-662.—"True forgetting implies a disruption or impairment of the learned pattern; whereas experimental extinction implies that the pattern, though still intact, is not being adequately energized. Extinction is often (perhaps always) the first step in forgetting, because the pattern when quiescent is more easily blocked and disintegrated by competing and interfering processes. . . . It is further suggested that motivation is the general factor which both separates and unites the phenomena of learning and of conditioning. Learning when deprived of general organic motivation, becomes conditioning; conditioning, when adequately energized, becomes learning."—*D. E. Johannsen* (Skidmore).

795. Hartmann, G. W. Learning as a function of the spatial interval between discriminanda. *Psychol. Bull.*, 1935, 32, 695.—Abstract.—*J. F. Dashiell* (North Carolina).

796. Keeler, L. W. The effect of controlled attention upon transfer of training. *Psychol. Bull.*, 1935, 32, 687.—Abstract.—*J. F. Dashiell* (North Carolina).

797. Lepley, W. M. Retention as a function of serial position. *Psychol. Bull.*, 1935, 32, 730.—Abstract.—*J. F. Dashiell* (North Carolina).

798. Lorge, I. "Confusion" as an aspect of the learning of older adults. *Psychol. Bull.*, 1935, 32, 559.—Abstract.—*J. F. Dashiell* (North Carolina).

799. Maublanc, R. Sur deux théories de la mémoire. (On two theories of memory.) *J. Psychol. norm. path.*, 1935, 32, 235-250.—The problem of memory reduces to finding out how, by means of repetition, the communication between two points of the nervous system becomes easier. Every philosopher answers this question according to the way his generation has solved the practical problems of locomotion, communication and transportation. In the 17th century one sent messages by means of horseback riders; whence Descartes' theory of animal spirits. At the end of the 19th century one sent messages by telegraphy; therefore William James' theory. The essentials of the Cartesian theory are that diverse thoughts correspond to movement in different parts of the brain, that the only type of movement is that of mobile bodies, that in order to discover why a mental image reappears in memory one must discover why a certain movement in the brain tends to reoccur. All the explanation in terms of animal spirits, tubes, pores, etc., uses the only experience of movement which Descartes could have at his time. The psychology of the end of the 19th century, however, electrified Descartes' theory. Experiences with electric current determined James' theory of memory. He spoke of direct lines, resistance, closed circuits. Psychologists should delay in accepting every new theory. Just as mental activity has been explained first by tubes and then by telegraph

wires, it may soon be explained by radio diffusion and television.—*R. E. Perl* (Columbia).

800. **McElwee, E. W.** Is a test of visual memory affected by maturity? *J. appl. Psychol.*, 1935, 19, 463-466.—The Ellis memory test of 10 objects was given to 150 6-year-old normal children and 100 subnormal children with a mental age of 6 whose IQ's ranged from 43 to 87 and chronological ages from 8 to 15 years. Subnormal children score higher than normal children. Binet mental age correlates .336 with scores on this test.—*R. S. Schultz* (Psychological Corporation).

801. **McGeoch, J. A.** Learning as an operationally defined concept. *Psychol. Bull.*, 1935, 32, 688.—Abstract.—*J. F. Dashiell* (North Carolina).

802. **McKinney, F.** Retroactive inhibition and recognition memory. *J. exp. Psychol.*, 1935, 18, 585-598.—The typical retroactive inhibition set-up was used. In the first experiment 50 subjects observed 10 advertisements for 3 seconds each. Then these 10 advertisements had to be identified among 20 others. In the work condition this was followed by the same procedure on another set of advertisements, and in the rest condition the subjects counted numbers on a sheet for the same length of time. In both conditions this interpolation was followed by the duplication of the original recall and the retention compared. The same subjects were used in the rest and work conditions, but different sets of advertisements were used and arranged to take care of practice and other effects. Forgetting under rest and work conditions and retroactive inhibition were calculated. In the second experiment the same set-up was used on different advertisements with the exception that different subjects were used. In the third experiment nonsense syllables were substituted for the advertisements. A fourth experiment duplicated Heine's technique with a slight improvement in control. Results show small but consistent amounts of retroactive inhibition with all material used. The similar advertisements produced the greatest amount of retroactive inhibition in terms of number of advertisements correctly selected, the dissimilar advertisements the least. Nonsense syllables show a slightly greater amount than the advertisements. The theoretical significance of the findings is discussed.—*H. W. Karn* (Pittsburgh).

803. **Moore, E. H.** Elements of error in testimony. *J. appl. Psychol.*, 1935, 19, 447-462.—A review of the literature (with 50 references) yields a number of factors which influence testimony, namely; conditions of exposure experienced by witness, suggestions, age, capacity for critical observations, visual or auditory contacts, distraction, complexity, degrees of attention, participation of witness, cultural values, and predominating stereotypes.—*R. S. Schultz* (Psychological Corporation).

804. **Peak, H.** Experimental extinction of verbal material. *Psychol. Bull.*, 1935, 32, 729-730.—Abstract.—*J. F. Dashiell* (North Carolina).

805. **Peters, H. N.** A relationship in memory between context and frequency of appearance. *Psy-*

chol. Bull., 1935, 32, 689.—Abstract.—*J. F. Dashiell* (North Carolina).

806. **Rey, A.** D'un procédé pour évaluer l'éducabilité: Quelques applications en psychopathologie. (Concerning a procedure for evaluating educability: some applications in psychopathology.) *Arch. Psychol., Genève*, 1934, 24, 287-337.—The author uses 4 flat trays each equipped with 9 disks or pegs, of which only one is fixed to the tray and so permits it to be raised. The trays are piled one upon the other. The subject's task is to learn to lift the trays successively without error, i.e. by means of the fixed disk without touching the unattached ones. The number and succession of errors is noted as well as the number of repetitions necessary for complete learning. Between the 4-year-old child, who fails completely, and the adult, who requires only one or two trials, the results reveal diverse types of behavior which can be classified genetically: (1) behavior involving isolated grasping of the disk without plan; (2) trial behavior, where all the disks are successively examined in a more or less systematic manner; (3) behavior with unilateral perseveration, where the entire field is structured as a result of the first success; (4) experimental behavior, which appears after 6 years of age and is characterized by the emergence of hypotheses and their control. These types of behavior are analyzed from the standpoint of biological assimilation. A chapter deals with psychopathological applications.—*M. R. Lambercier* (Geneva).

807. **Sells, S. B.** The atmosphere hypothesis in syllogistic reasoning. *Psychol. Bull.*, 1935, 32, 572.—Abstract.—*J. F. Dashiell* (North Carolina).

808. **Signoret, E.** Sur la mémoire affective. (On affective memory.) *J. Psychol. norm. path.*, 1935, 32, 251-269.—Memory is not an automatic reproduction but an intellectual activity involving constructiveness. Affectivity plays the same role in the perception of the past as it does in that of the present. We constantly retouch our memories to make them nearer our desires. Falsification of memory is almost always caused by needs, passions, aversion. Memory is also characterized by a sort of emotional inversion; the memory of a pain causes a present secret pleasure, perhaps by contrast, and, likewise, the remembrance of a joy is usually slightly melancholic.—*R. E. Perl* (Columbia).

809. **Thorndike, E. L., & Lorge, I.** The influence of relevance and belonging. *J. exp. Psychol.*, 1935, 18, 574-584.—It was the purpose of this experiment to ascertain the influence of satisfying connections that are not applied directly to any one connection. After-effects may belong definitely and clearly to the connections that they follow, or again they may be ambiguous and indefinite in their belongingness. The experiment investigates the action of after-effects of four different degrees of relevance and belongingness. Analysis of the findings leads the authors to the following conclusion: "Strengthening by a satisfying state of affairs is not restricted to an after-effect which is definitely attached to a certain connection by the learner's conscious awareness or by logical

belonging. Within the variety used in our experiment, any satisfier tends to strengthen the connection it follows more than an annoyner does, and more than a neutral state does."—*H. W. Karn* (Pittsburgh).

810. **Wachtel, J.** Świat nowych spostrzeżeń. Nauka o ejdetyzmie i jej zagadnienia pedagogiczne. (A world of new observations. Eidetism and its problems for pedagogy.) Warsaw: Nasza Księgarnia, 1935. Pp. v + 157. 2.50 zloty.—This book treats in five chapters the synthetic researches on eidetic imagination made by Jaensch and his students. The first chapter is devoted to terminological problems, methods of investigation, and the history of eidetism. In the second, the author deals with the phenomenology of eidetic pictures. The third chapter discusses problems connected with the extension of eidetic capacity among adolescents and adults. The fourth chapter, entitled "On the Border-line between Observations and Representations," gives facts showing the parallelism between eidetic pictures, on the one hand, and observations and representations, on the other. In this chapter also the author cites his own investigations touching: (1) the confusion and distortion of eidetic pictures in reflected surfaces; (2) optical-geometric illusions in eidetic pictures. Finally (Chapter V), the author concludes with a discussion of the importance of eidetism for practical pedagogy.—*S. Blachowski* (Poznań).

811. **Witmer, L. R.** Retention of intra-serial associations. *Psychol. Bull.*, 1935, 32, 690.—Abstract.—*J. F. Dashiell* (North Carolina).

[See also abstracts 860, 889, 911, 984, 1068, 1236.]

NERVOUS SYSTEM

812. **Alajouanine, T., Thurel, R., & Brunelli, A.** Les douleurs alternées dans les lésions bulbo-protuberantielles. Contribution à l'étude de la physiopathologie des douleurs centrales. (Alternating pains in lesions of the medulla. Contribution to the study of the physiopathology of central pains.) *Rev. neurol.*, 1935, 42, 828-837.—Lesions in the medulla are frequently accompanied by hemifacial homolateral pains. It is rare that these pains are super-added to the heterolateral pains which extend over half the body and which are analogous in every respect to thalamic pains. The author cites seven cases taken from medical literature and three personal observations where the origins of the alternate pains were found to be respectively a protuberant tumor, a vascular lesion of the medullar brain-pan, and a retro-olivary bulbar mollities. Ordinarily the syringobulbar lesions, affecting preferably the gray matter, give rise only to homolateral pains. The alternating pains are scarcely ever observed except in lesions having a vascular origin and in tumors of the medullar brain-pan.—*M. H. Piéron* (Sorbonne).

813. **Chappell, M. N., & Pike, F. H.** Changes in the functional capacity of the conduction system. *Psychol. Bull.*, 1935, 32, 567.—Abstract.—*J. F. Dashiell* (North Carolina).

814. **Chauchard, A., Chauchard, B., & Drabovitch, W.** Modifications de l'excitabilité des neurones

périphériques au cours du mouvement, dans le réflexe conditionné. (Modifications of the excitability of peripheral neurons during conditioned reflex movements.) *C. R. Soc. Biol., Paris*, 1935, 119, 76-78.—During a reflex response there is a lowering of the chronaxy of the active and antagonistic muscles, while before and after the response there is an increase. The authors sought to test this in an untrained animal by giving it an auditory stimulation some seconds before the measuring of chronaxy, where the auditory stimulation would produce, in the peripheral nervous system, changes similar to those produced in a trained dog. The result was negative. If the auditory stimulus is not supported by a definite stimulus of sufficient intensity, it fails to modify the motor chronaxy.—*M. H. Piéron* (Sorbonne).

815. **Derbyshire, A. J., & Davis, H.** The action potentials of the auditory nerve. *Amer. J. Physiol.*, 1935, 113, 476-504.—Electrical responses from the cochlea and nerve action currents were differentiated by a difference of latency and by the polarity of the cochlear response being reversible with the sound wave. The amplitude of the nerve response halves at 900 and 1800 cycles and the response becomes asynchronous at 3000 to 4000 cycles. A "fast" equilibration during the first 2 seconds of stimulation seemed predominately due to alternation of fibers. The functional latency of the terminations on the basilar membrane was determined as no longer than 1.0 ms. The average threshold for 8 normal cats and for 8 normal humans varied slightly but not to any important degree. By means of difference of latencies and of the frequency transmitted, evidence was obtained that particular fibers in the nerve tracts convey tones of a given range. The latencies were determined with clicks rather than tones, and a wave was obtained from the cochlea in which 3 components were identified as of characteristics similar to action currents from the nerve. By comparing the latency of one of these as recorded from the cochlea and as recorded from the nerve, a conduction velocity of the order of 30 meters per second was obtained. A synaptic delay in the cochlear nucleus of 1.0 ms. was similarly found. No evidence indicated unique properties of the auditory nerve. A mechanism is suggested for stimulation in which the cochlear response is generated by sensory cells of the organ of Corti and in which liberation of a chemical mediator is responsible for the actual stimulation of the nerve fibers. It is pointed out that the differential frequency transmission, indicating that pitch perception depends on a particular group of fibers, favors localization along the lines suggested by Helmholtz. Auditory fatigue does not correspond to "equilibration," and therefore frequency of impulses in the fiber does not equal loudness, but rather the number of neurons activated and the amplitude of cochlear response are the probable physiological correlates of loudness.—*T. W. Forbes* (N. Y. Psychiatric Institute).

816. **Eccles, J. C.** The action potential of the superior cervical ganglion. *J. Physiol.*, 1935, 85, 179-207.—From a lengthy analysis of the action potential spike of the superior cervical ganglion recorded by

means of a cathode-ray oscillograph, it is found that there are four separate groups of ganglion cells. Each group is supplied by its own groups of preganglionic fibers. Some of the time properties of these groups are determined.—*M. A. Rubin* (Clark).

817. Eccles, J. C. Facilitation and inhibition in the superior cervical ganglion. *J. Physiol.*, 1935, 85, 207-239.—Some aspects of excitatory and inhibitory states of the ganglion cells are investigated. These states resemble those of c.e.s. and c.i.s. of the spinal cord. The author suggests that the superior cervical ganglion must be regarded as a coordinating as well as a transmitting and distributing system.—*M. A. Rubin* (Clark).

818. Fulton, J. F., & Viets, H. R. Upper motor neuron lesions. *J. Amer. med. Ass.*, 1935, 104, 357-362.—An analysis of the syndromes appearing after lesions in the motor and premotor areas or in their efferent tracts. Lesions in the pyramidal tracts or the motor area result in a flaccid motor paralysis, muscular atrophy, and depression of all reflexes. These changes are transient. The signs of Babinski and Chaddock are positive and persist permanently. There are no intellectual changes. Lesions of the premotor projection area are followed by spastic paralysis, disturbance of skilled movements, forced grasping, seizures, vasomotor disturbances, increased deep reflexes and the signs of Rossolimo, Mendel-Bekhterev and Hoffmann. The memory for acquired skilled movements is lost, but may be recovered through re-education. Combined destruction of both motor and premotor components of the upper motor neuron results in hemiplegia, and these cases are likely to exhibit combinations of the symptoms associated with lesions in each of the two areas. Discussion.—*D. J. Ingle* (Mayo Foundation).

819. Globus, J. H., & Silverstone, S. M. Diagnostic value of defects in the visual fields and other ocular disturbances associated with supratentorial tumors of the brain. *Arch. Ophthalmol.*, Chicago, 1935, 14, 325-386.—Summarizes fully the findings in 171 cases of supratentorial tumors of the brain. Cases are classified according to location and type of tumor (infiltrating and encapsulated) and are further grouped according to proximity to optic pathways. Although inability of patients to cooperate made it impossible to obtain reliable field studies in many cases, in general anticipated defects were demonstrated. It was also shown that field defects may occur due to infiltration or indirect pressure when the site of the tumor is not near the optic pathways. The authors suggest that help in locating lesions might be derived from detailed study of other ocular data. They include notes on pupil reactions, pupil sizes, width of palpebral fissures, action of extrinsic ocular muscles, convergence, acuity, papilledema and optic atrophy.—*M. R. Stoll* (Massachusetts Eye and Ear Infirmary).

820. Harlow, H. F. The effect of local cortical anesthetization on motor and sensory functions. *Psychol. Bull.*, 1935, 32, 746.—Abstract.—*J. F. Dashiell* (North Carolina).

821. Harper, A. A., McSwiney, B. A., & Suffolk, S. F. Afferent fibers from the abdomen in the vagus nerves. *J. Physiol.*, 1935, 85, 267-277.—*M. A. Rubin* (Clark).

822. Iakowleff, C. La chronaxie sensitive chez les aveugles par rapport à la lecture par Braille et au travail physique. (Chronaxy of the blind as related to reading Braille and physical work.) *Travail hum.*, 1935, 3, 336-342.—Chronaxy of the forearm is less in blind than in seeing subjects. Reading Braille for 30 minutes usually decreases chronaxy, but it increases in the other hand. Reading with the eyes produces very little change in the chronaxy in the forearm. When working in the carpenter shop there is little difference between blind and seeing in chronaxy changes.—*H. E. Burt* (Ohio State).

823. Jasper, H. H., Cruikshank, R. M., & Howard, H. Action currents from the occipital region of the brain in man as affected by variables of attention and external stimulation. *Psychol. Bull.*, 1935, 32, 565.—Abstract.—*J. F. Dashiell* (North Carolina).

824. Kirk, S. A. Hemispheric cerebral dominance and hemispheric equipotentiality. *Comp. Psychol. Monogr.*, 1935, 11, No. 5. Pp. 41.—Experimental evidence was sought which would enable one to choose between the assumption that the hemispheres are equipotential and the assumption that one is dominant. Rats were given handedness, visual discrimination (an F versus a mirrored F), and reasoning tests. They were then separated to form, respectively, a group with contralateral (with respect to preferred hand) hemispheric lesions and a group with homolateral hemispheric lesions. After ten days the tests were repeated. Cortical destruction within a critical area of the anterior portion of the contralateral hemisphere changed hand preference. Lesions in the homolateral hemisphere or in the contralateral hemisphere posterior to the critical portion did not affect hand preference. The visual response suffered the same loss from a contralateral and a homolateral lesion. Nothing comparable with strephosymbolia was evidenced. These results and those on the Maier reasoning test are "strikingly in favor of the theory that the hemispheres are equipotential." Review of the literature pertaining to handedness and cerebral dominance and an extensive bibliography.—*N. L. Munn* (Pittsburgh).

825. Kirk, S. A. Hemispherical equipotentiality and hemispherical cerebral dominance. *Psychol. Bull.*, 1935, 32, 743-744.—Abstract.—*J. F. Dashiell* (North Carolina).

826. Klein, M. Der Einfluss der Degeneration auf die Reizbarkeit des isolierten Nerven. (The influence of degeneration on the excitability of isolated nerve.) Leipzig: Frommhold & Wendler, 1935. Pp. 19.—*R. R. Willoughby* (Clark).

827. Kornmüller, A. E. Die bioelektrischen Erscheinungen architektonischer Felder der Grosshirnrinde. (Bioelectric manifestations in architectonic fields of the cerebral cortex.) *Biol. Rev.*, 1935, 10, 383-427.—The normal cortex is continuously

active, but the various areas differ in activity. The bioelectric fields correspond spatially with the histologically defined areas. The ontogeny of the bioelectric phenomena of the brain was studied in rabbits. Certain pathological cases are described. A working hypothesis is developed to explain the nature of bioelectric phenomena in the cerebral cortex. English summary.—*M. A. Rubin* (Clark).

828. Lapique, L. *La chronaxie en biologie générale.* (Chronaxy in general biology.) *Biol. Rev.*, 1935, 10, 483-514.—A review of chronaxy. Objections to the law of isochronism and the mechanism of curarization on chronaxy are discussed.—*M. A. Rubin* (Clark).

829. Liu, A. C., & Rosenbluth, A. *Reflex liberation of circulating sympathin.* *Amer. J. Physiol.*, 1935, 113, 555-559.—Cats under urethane were used to ascertain whether or not sympathin may be produced as a function of the stimulation of sympathetic nerves. The denervated right nictitating membrane was used as an indicator. Adrenals were removed and vagi cut. Blood pressure and nictitating membrane response were recorded to shock stimuli of the sciatic or brachial nerves. Responses of the nictitating membrane which were not the result of blood pressure changes occurred, the former alone decreasing on repeated stimuli. It is concluded that sympathin may be a significant hormone, synergistic with adrenaline, insuring widespread activation of sympathetic effectors. Such sympathin appeared to be most effective near the site of production. The authors warn against over-estimating the importance of sympathin as such a hormone, calling attention to the abnormal sensitization of the indicators used in the study.—*T. W. Forbes* (N. Y. Psychiatric Institute).

830. Lorente de N6, R. *Facilitation of motoneurons.* *Amer. J. Physiol.*, 1935, 113, 505-523.—Facilitation was investigated by means of the same general type of preparation used in previous studies, viz., stimulating electrodes on the motoneurons in the floor of the fourth ventricle which go to the third nucleus and action current records from the left internal rectus muscle. The response to a single shock was quite variable and suggested summation with pre-existing subliminal excitation. Shock through the stimulating electrodes produced no facilitation after experimental lesions in the reticular substance in the medulla and the pons. This is interpreted to be evidence for such tonic innervation through internuncial paths, and to confirm the previous conclusion that labyrinthine reflexes obtained after section of paths from vestibular to oculomotor nuclei are due to such pathways. Two types of facilitation were obtained; in one the conditioning shock was followed by a period of facilitation, and in the second the conditioning shock was followed by a period of depression and then by facilitation. On the basis of independence of the onset from the absolutely refractory period of the stimulated fibers and of other characteristics, it is concluded that the facilitation is due to activation of a chain of internuncial neurones and that the onset of facilitation

depends on variations from their synaptic delays. The type in which depression is followed by facilitation is interpreted as due to a similar mechanism, but as indicating the rapid dissipation of the excitatory process in part of the motoneurons, which allows a period of depression before the facilitation from the internuncial chain arrives at the motoneurone. A third type of response in which the conditioning shock was sometimes followed by a period of facilitation and then by a period in which a test shock elicited a series of responses is interpreted as being the effect of discharges from various internuncial chains which reach motoneurons with different delays.—*T. W. Forbes* (N. Y. Psychiatric Institute).

831. Lorente de N6, R. *The summation of impulses transmitted to the motoneurons through different synapses.* *Amer. J. Physiol.*, 1935, 113, 524-528.—The question whether summation occurs when excitation is sent to a motoneurone over different paths was investigated, using the author's previously described preparation but with two pairs of electrodes each on a different nucleus sending fibers to the oculomotor nuclei. One electrode was placed in the floor of the fourth ventricle on the left abducens, and the second in the reticular nuclei in front of the nucleus ruber. In general similar effects were obtained to those where two shocks were used on the same motor fibers.—*T. W. Forbes* (N. Y. Psychiatric Institute).

832. Marchionini, A. *Dermatologie und Neurologie.* (Dermatology and neurology.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 401-413.—The author states that in the year covered by his report (the last half of 1934 and the beginning of 1935) the advances in the field of dermato-neurology have been few. However, he wishes to report some of the "first steps" which the research has taken, insofar as these are relevant to increasing knowledge in the science. The first part of the report, normal and pathological histology, is devoted to a résumé of three investigations, among them the work of Truffi on innervation. Truffi used the coloring method of Cajal, and that of Orzalesi and Bielowsky. Etiology and pathogenesis are the subjects of the second section, in which a number of pharmacological, bacteriological and clinical methods of studying the peripheral and central nervous systems are discussed. A section on clinical methods and one on therapy conclude the article. In the latter an investigation by Rogerson on the role of psychotherapy in the treatment of the asthmatic-prurigo complex in children and another by Wisch on the application of hypnosis to psoriasis, with several others, are considered. There is a bibliography.—*D. S. Oberlin* (Newark, Del.).

833. Mowrer, O. H., Ruch, T. C., & Miller, N. E. *The corneo-retinal potential difference as the basis of the galvanometric method of recording eye movements.* *Psychol. Bull.*, 1935, 32, 566-567.—Abstract.—*J. F. Dashiell* (North Carolina).

834. Pfaffmann, C., & Jasper, H. H. *Sensory discharges in cutaneous nerve fibers following*

chemical stimulation. *Psychol. Bull.*, 1935, 32, 565-566.—Abstract.—J. F. Dashiell (North Carolina).

835. Rioch, D. McK., & Rosenblueth, A. Inhibition from the cerebral cortex. *Amer. J. Physiol.*, 1935, 113, 663-676.—Ipsilateral and contralateral reflexes of the hind limbs were obtained in response to stimulation of the peripheral nerve. Saphenous, tibial, peroneal, or hamstring nerves were used. The cortex was then explored with a tetanizing frequency. Cats, dogs and monkeys were used. Inhibition of both agonist and antagonist, inhibition of one without contraction in the other, relaxation of the antagonist without contraction of the agonist, and simultaneous contractions of the antagonistic muscles were obtained. The interpretation of the results is rendered somewhat uncertain by the entrance of other possible nerve impulses, but it is suggested that there may be a relation to fixation, limb movement and relaxation of the normal animal, and that excitation and inhibition of the cortical origin may occur independently. In general the contralateral motor area usually produced reciprocal inhibition. The spinal path for the inhibitory impulses was probably in the ventral quadrants of the cord. The different species showed different types of response under the three anesthetics used—dial, urethane, chloralose. It is pointed out that differences within a species indicate a different localization of the inhibition and of the seat of action of the anesthetic, and that work with a single anesthetic therefore distorts the true picture.—T. W. Forbes (N. Y. Psychiatric Institute).

836. Smith, K. U. An investigation of postoperative deficiencies in visual intensity discrimination following extirpation of the striate cortex in the cat. *Psychol. Bull.*, 1935, 32, 746-747.—Abstract.—J. F. Dashiell (North Carolina).

[See also abstracts 764, 782, 856, 910, 922, 931, 953, 969, 993, 1006, 1222.]

MOTOR PHENOMENA AND ACTION

837. Aigner, A. Über Zusammenhänge zwischen Intelligenz- und Willensleistungen. (The relationship between intelligence and volition.) *Psychotech. Z.*, 1935, 10, 23-34.—In order to determine the relationship between intelligence and volition, 30 subjects were given the Bobertag and Burt intelligence tests and three groups of choice discrimination tests, as well as a simple and a choice reaction test. Time and accuracy of response or choice were used as units of measurement, and the relationship was determined by means of the product-moment method of correlation. Two groups of positive correlations were found: (1) between the speed of responses, regardless of whether the scores were from intelligence or volition tests, and (2) between the different intelligence scores. The author believes that these positive intercorrelations may be explained by postulating an intelligence and a speed factor, and that the latter may be considered as volitional momentum or individual speed tempo. Therefore it seems that speed and accuracy of performance do not go hand in hand, at least not to

the extent that is usually assumed.—C. Burri (Chicago).

838. Baschmakoff, W. I., & Iljin-Kakujeff, B. I. Die Berechnung von Indices für das Minutenvolumen des Herzens bei Ruhe und Arbeit. (Computation of indices for the work of the heart in rest and in work.) *Arbeitsphysiologie*, 1935, 8, 476-484.—The product of pulse by blood pressure gives an index which correlates rather highly with the actual rapidity of circulation through the heart.—H. E. Burr (Ohio State).

839. Bing, H., & Tobiassen, E. Viscerocutane og cutoviscerale reflexer paa abdomen. (Visceral cutaneous and cutovisceral reflexes on the abdomen.) *Hospitalstidende*, 1935, 78, 1076-1084.—With reference to Bing, Rudimentary Hyperesthetic Zones of the Abdomen, *Acta med. scand.*, 82, the present work demonstrates the existence of such reflex zones on the abdomen by a new method.—M. L. Reymert (Mooseheart Laboratory for Child Research).

840. Bott, E. A. The relations of antagonistic muscles in voluntary finger movements. *Psychol. Bull.*, 1935, 32, 722.—Abstract.—J. F. Dashiell (North Carolina).

841. Bouman, H. D. Experiments on the double excitability of striped muscles. *Arch. néerl. Physiol.*, 1935, 20, 296-316.—When muscle fiber itself is stimulated electrically, a slow contraction similar to the contraction form of denervated striped muscle or to the contraction form of smooth muscle follows. Only when it is stimulated through its periterminal network is the normal muscle twitch elicited. When a muscle is stimulated directly by induction shocks or other rapid stimuli the muscle fibers are always stimulated through the periterminal network. Cutting the motor nerve leads to degeneration of the periterminal network, which accounts for the slow contraction of the denervated muscle.—C. P. Stone (Stanford).

842. Bridgman, C. S., & Carmichael, L. The reflex character of first fetal movements. *Psychol. Bull.*, 1935, 32, 564.—Abstract.—J. F. Dashiell (North Carolina).

843. Brogden, W. J., & Culler, E. Experimental extinction of higher-order responses. *Amer. J. Psychol.*, 1935, 47, 663-669.—The present study investigated the relative strength of conditioned responses of the five orders previously described (*Amer. J. Psychol.*, 1934, 46, 596-602), as measured by their rates of experimental extinction. It was found that the first-order response is about four times as stable as those of any of the higher orders. Since the speed of conditioning has nothing to do with the speed of extinction, it is suggested that extinction is a function of motivation alone, and not a function of the time or difficulty in establishing the response.—D. E. Johannsen (Skidmore).

844. Bujas, R. Nov način mjerjenja umora. (A new method of measuring fatigue.) *Liječn. Vjesn.*, 1935, No. 7, 1-4.—Direct measures of fatigue do not furnish a rapid index of its amount. Nor is von

Griesbach's esthesiometric method convenient. A new method measures the narrowing of the field of vision by fatigue, and for its measurement the "kamatometer" has been devised. This is a compact instrument for determining size of field. With 166 subjects the average reduction was 4.7° by physical and 6.65° by mental work.—*L. A. Riggs* (Clark).

845. Bunch, M. E. Certain effects of electric shock in learning a stylus maze. *J. comp. Psychol.*, 1935, 20, 211-242.—14 groups, each consisting of no fewer than 26 human subjects, learned a stylus maze under various conditions of punishment or non-punishment. The author wished to answer such questions as the following: What is the effect of an electric shock in stylus maze learning? Is this effect due to the punitive or to the informative properties of the shock? What is the relative efficacy of different numbers of shock trials and how does this efficacy vary with the temporal spacing of the trials and with the stage of learning at which they are introduced? Shock was more efficacious than absence of shock. The effectiveness of a shock involved more than its informative value. No greater efficiency was introduced by giving more than 2-4 shock trials. The efficacy of shock trials varied with their temporal spacing, so that the later their introduction the greater the error reduction produced by them. The effect of a small number of shock trials was also shown to be a function of the stage of learning at which they were introduced. Bibliography.—*N. L. Munn* (Pittsburgh).

846. Carmichael, L. The onset and primary development of reflexes in the fetal guinea-pig. *Psychol. Bull.*, 1935, 32, 679-680.—Abstract.—*J. F. Dashiell* (North Carolina).

847. Cason, H. Backward conditioned eyelid reactions. *J. exp. Psychol.*, 1935, 18, 599-611.—The present experiment shows that a connection between an auditory stimulus and an eyelid reaction is generally not formed when the auditory stimulus comes immediately after the eyelid reaction in the C-R training. It is suggested, however, that some kind of conditioning may have occurred, because the presence or absence of the eyelid stimulus and response made a difference in the apparent intensity of the auditory stimulus and response. Thus subjects reported that the sound occurring alone seemed weaker than the sound immediately preceded by an eyelid reaction, although the physical sound was the same on the two occasions. The auditory response was apparently conditioned to the organic pattern of the preceding eyelid reaction; the eyelid reaction seems to have acquired the ability to increase the intensity of the immediately following auditory response. Another possible explanation is that before the C-R training began, a reflex connection existed between the facial pattern of the eyelid reaction and the tension of the muscles in the middle ears. If this explanation is correct then it is probable that no noticeable conditioning of any kind occurred in the present experiment.—*H. W. Karn* (Pittsburgh).

848. Claparède, E. Sur la nature et la fonction du jeu. (Concerning the nature and function of

play.) *Arch. Psychol., Genève*, 1934, 24, 350-369.—The author examines and criticizes the theory of play recently presented by Buytendijk (*Wesen und Sinn des Spiels*), according to whom play is only the manifestation of infantile dynamism. If this were true all child activities would be play; which is not the case, Buytendijk himself noting that when young foxes or other animals hunt there is nothing playful in the behavior. The Dutch scientist rejects K. Groos's theory of preparatory exercise. Claparède, while recognizing that the functional value of play cannot be considered as an exercise of the instincts, nevertheless believes that one should not deny the importance of play in the development of the individual. Play has a value as an experimental activity which contributes to a knowledge of the external world and to the problem of adaptation. Play also has a compensatory value, notably for the feeling of inferiority. It is also an agent for the abreaction of suppressed complexes. For Claparède, who defended the thesis in his *Psychologie de l'Enfant*, 1915, play is a manifestation of the free expansion of the self which takes place in the domain of make-believe, either because reality does not offer an opportunity for the expansion or because the expansion is not then embarrassed by the limitations of reality. "Play is a free pursuit of make-believe ends; it is the paradise of the 'as if.'"—*M. R. Lambercier* (Geneva).

849. Csinady, E. V. Die praktische Verwendung der einfachen und kombinierten Reaktionszeitprüfungen. (Practical application of simple and choice reaction time measurements.) *Arbeitsphysiologie*, 1934, 8, 261-265.—Athletes showed quicker reaction time with the left hand in most cases. Tennis players showed the quickest reaction time. The more rapid persons had the greater number of errors in choice reaction.—*H. E. Burt* (Ohio State).

850. Darrow, C. W. Palmar skin conductance (sweating), an accessory to activity of the postural mechanisms. *Psychol. Bull.*, 1935, 32, 720-721.—Abstract.—*J. F. Dashiell* (North Carolina).

851. Dorcus, R. M. An experimental study of the post-rotational "pointing test." *Psychol. Bull.*, 1935, 32, 710.—Abstract.—*J. F. Dashiell* (North Carolina).

852. Ewert, P. H. Measuring practice effects. *Psychol. Bull.*, 1935, 32, 686-687.—Abstract.—*J. F. Dashiell* (North Carolina).

853. Finkler, W. Der Pavlov'sche Mensch. (The Pavlovian man.) *Umschau*, 1935, 39, 592.—"Reflexes" can be taught not only to the Pavlovian dog but also to man. Such reflexes arise by an artificially created connection between a stimulus and a reaction. In a case of dropsy the flow of urine could be induced by injection of sodium chloride after a training with injection of mercury. Also the formation of anti-toxins can be conditioned.—*P. Klimpel* (Leipzig).

854. Guillaume, P. Les aspects affectifs de l'habitude. (The affective aspects of habit.) *J. Psychol. norm. path.*, 1935, 32, 200-234.—Experimental research on the formation of habit has cast doubts on certain theories which seemed clear and definite. On the one hand, repetition appears less

as a direct cause of the formation of habits than as an extrinsic circumstance which creates a favorable condition for the action of the real cause. Need seems to be the fundamental thing, and mere repetition cannot create need. Needs are independent of repeated satisfactions. Affective development seems to be a type of emergence comparable to spontaneous maturation. On the other hand, the extinction of a habit is not explicable by means of the theory of reinforcement by repetition. A habit dies when the forces which sustained it disappear or are directed into other channels. One should not confuse repetition and habit formation.—*R. E. Perl* (Columbia).

855. Hathaway, S. R., & Sisson, E. D. The time relations of the events in quick voluntary movements. *Psychol. Bull.*, 1935, 32, 721-722.—Abstract.—*J. F. Dashiell* (North Carolina).

856. Hilden, A. H. An action current study of the conditioned hand withdrawal. *Psychol. Bull.*, 1935, 32, 732-733.—Abstract.—*J. F. Dashiell* (North Carolina).

857. Hovland, C. I. The extent of the intensity irradiation of visually and tactually conditioned responses. *Psychol. Bull.*, 1935, 32, 568-569.—Abstract.—*J. F. Dashiell* (North Carolina).

858. Hovland, C. I. The effects of varying amounts of reinforcement upon the generalization of conditioned responses. *Psychol. Bull.*, 1935, 32, 731-732.—Abstract.—*J. F. Dashiell* (North Carolina).

859. Hulin, W., & Katz, D. A comparison of emphasis upon right and upon wrong responses in learning. *J. exp. Psychol.*, 1935, 18, 638-642.—The purpose of the experiment was to obtain further data upon the learning situations in which the sound of a bell accompanies the correct response (bell-right) and in which the sound of a bell accompanies the incorrect response (bell-wrong). The apparatus was a duplicate of Tolman's punch board maze. The results show that the bell-right situation was more easily learned (according to the criteria of average number of trials and average number of errors) than the bell-wrong situation. The authors consider that their findings tend to contradict the conclusion previously reported by Muenzinger and to confirm the results previously reported by Tolman, Hall and Bretnall.—*H. W. Karn* (Pittsburgh).

860. Hull, C. L. The conflicting psychologies of learning—a way out. *Psychol. Rev.*, 1935, 42, 491-516.—The present divergence among the many psychological accounts of learning is one of theory, not of experimental findings. This suggests that the methods of developing the theories have been wrong. The ideal procedure is to direct experiments by systematic integrated theory rather than by isolated hypotheses, as exemplified in the development of the quantum theory in physics. Four essentials of a sound theoretical system are: (1) The definitions and postulates should be stated clearly and consistently and should permit rigorous deductions. (2) The implications of the postulates should be systematically deduced. (3) The significant theorems should be

specific statements of the outcome of concrete experiments. (4) Theorems deduced which relate to unknown phenomena should be experimentally tested as a check on the theoretical framework. By way of illustration, a model scientific theoretical system is presented in detail with (a) definitions, (b) postulates, (c) theorems and deduction of the theorems from the postulates. In general, postulates should not be accepted or rejected upon the basis of their origin or of the metaphysical implications involved, but on the basis of their fruitfulness in yielding valid deductions.—*A. G. Bills* (Chicago).

861. Jordi, A. Untersuchungen zum Studium der Trainiertseins. 1. Mitteilung: Ruheumsatz und Arbeitstoffwechsel. (Investigation of exercise. Part I: Metabolism during rest and work.) *Arbeitsphysiologie*, 1933, 7, 1-8.—Resting metabolism is greater with athletes than with non-athletes. A similar result holds with work performed bimanually on an ergograph.—*H. E. Burt* (Ohio State).

862. Knoll, W. Kinematographische Bewegungsstudien. VIII. Reiter und Pferd. (Motion picture studies of movement. VIII. Rider and horse.) *Arbeitsphysiologie*, 1934, 8, 375-406.—Moving pictures of rider on horseback and analysis of the center of gravity of the horse-man system at different gaits.—*H. E. Burt* (Ohio State).

863. Knoll, W., & Feeser, B. Kinematographische Bewegungsstudien. VI. Beziehungen zwischen Körperschwerpunkt und Gleichgewicht. (Moving picture studies of motion. VI. The relation between the body's center of gravity and equilibrium.) *Arbeitsphysiologie*, 1934, 8, 304-312.—Moving pictures of acrobats balancing themselves in various positions, with analysis of the center of gravity.—*H. E. Burt* (Ohio State).

864. Knoll, W., & Mock, K. H. Kinematographische Bewegungsstudien. VII. Der Start zum Kurzstreckenlauf. (Moving picture studies of motion. VII. The beginning of the sprint for short distances.) *Arbeitsphysiologie*, 1934, 8, 335-346.—Moving pictures of the start of a sprint indicate that the cross position is most favorable to give the body the maximum forward thrust.—*H. E. Burt* (Ohio State).

865. Kwint, L. Développement des mouvements volontaires de la face. (Development of the voluntary movements of the face.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 624-632.—The subjects were 476 children between the ages of 4 and 16. They were requested to imitate the facial movements of the experimenter. It was found that the number of movements they could voluntarily imitate reached a maximum at 14 years and was slightly less for 15 and 16 years. The various movements tended to appear at definite ages; they seem to be dependent upon the stage of development of the cerebral cortex. In addition to the group used for establishing the norms, a few feeble-minded and superior children were examined. A positive correlation was found between their mental development and their voluntary control of facial muscles.—*M. B. Mitchell* (New Hampshire State Hospital).

866. Levine, K. N. A note on the relation of the dominant thumb in clasp to handedness. *Amer. J. Psychol.*, 1935, 47, 704-705.—Although there is a tendency for the more right-handed individuals to clasp the hands with the left thumb on top, it is not a reliable difference, and the results of the study (on 75 S's) present "striking evidence that in this group there is absolutely no relation between the dominant thumb in clasping the hands and handedness tendencies."—D. E. Johannsen (Skidmore).
867. Mateer, F. A first study of pituitary dysfunction in cases of reading difficulty. *Psychol. Bull.*, 1935, 32, 736.—Abstract.—J. F. Dashiell (North Carolina).
868. Mauss, M. Les techniques du corps. (Bodily techniques.) *J. Psychol. norm. path.*, 1935, 32, 271-293.—By this title the author means the way in which men in different societies use their physical capacities. He includes such things as swimming, gait, method of digging, position of hands when walking or at rest. The social nature of habits is stressed. Habits vary not simply with the individuals, but especially with the society and its fashions, education, objects of prestige. Bodily techniques may be classified by sexes, age groups, training required, etc. To know why one makes such a gesture and not another, for example, it is not sufficient to know the physiology and psychology of movement, but also the traditions of the society in which it takes place. The author gives an enumeration of bodily techniques beginning with birth and covering adolescence and adulthood. He includes states of sleep, of rest, of activity, of bodily care, eating and drinking, reproduction. He gives numerous examples showing how these functions differ in different societies and in different generations.—R. E. Perl (Columbia).
869. Max, L. W. Breaking up a homosexual fixation by the conditioned reaction technique: a case study. *Psychol. Bull.*, 1935, 32, 734.—Abstract.—J. F. Dashiell (North Carolina).
870. Menzies, R. The conditioning of human vaso-motor responses to verbal and other stimuli. *Psychol. Bull.*, 1935, 32, 730-731.—Abstract.—J. F. Dashiell (North Carolina).
871. Moguendovitch, N., & Kaem, J. Le rôle de l'appareil vestibulaire dans l'orientation des aveugles. (The role of the vestibular apparatus in the orientation of the blind.) *Travail hum.*, 1935, 3, 328-335.—Electric bells sounded in different directions in the room. The subject operated a rotating pointer to indicate the direction of the sound. He was allowed to turn his head at will. Blind subjects had an average error of 9° and seeing subjects of 14°. After three trials the subject was rotated in his chair five times and after the next trial he was rotated ten times. The last condition raised the error for seeing subjects to 16% but made no change in the blind. About half of the blind did better after rotation, but only a third of the seeing did so.—H. E. Burt (Ohio State).
872. Müller, L. R. Ermüdung, Müdigkeit, Schlaf und Erholung. (Fatigue, feeling of fatigue, sleep and recovery.) *Umschau*, 1935, 39, 570.—Report on an article which was published in *Dtsch. med. Wschr.*, 1935, No. 16.—P. Klimpel (Leipzig).
873. Perlberg, A. [Respiratory exchange of children during the first minutes of work.] *Przeg. Fizjol. Ruchu*, 1933, 5, 10-33.—Boys between 11 and 13 years show a great variability in the time required on a bicycle ergometer to reach a steady respiratory exchange. The respiratory quotient becomes greater than one during this period, contrary to results observed with adults.—H. E. Burt (Ohio State).
874. Peters, H. N., & McLean, L. An experiment on orientation in stylus maze learning. *J. exp. Psychol.*, 1935, 18, 633-637.—The problem of the present experiment was: In stylus maze learning, if the human subject is presented with many equidistant pathways to a goal, will he fixate one of them or will he vary his choice of paths as the rat does? The maze used was made of wood and modeled after that used by Dashiell in his study on direction orientation in maze running by the white rat. The conventional stylus maze procedure was used. Results show that the subjects, without exception, tried to follow the same pathway each time. It is concluded that orientation to local cues in the pathway is of relatively greater importance to stylus maze learning than it is to maze learning in rats. Factors which possibly contribute to the making of the difference between the learning of a stylus maze by human subjects and of a similar maze by rodents are discussed.—H. W. Karn (Pittsburgh).
875. Pitkin, W. B. Take it easy: the art of relaxation. New York: Simon & Schuster, 1935. Pp. ix + 244. \$1.75.—Same as IX: 4124.—R. R. Willoughby (Clark).
876. Pressey, S. L. An attempt at a new approach to an "applied psychology of learning." *Psychol. Bull.*, 1935, 32, 706.—Abstract.—J. F. Dashiell (North Carolina).
877. Rounds, G. H. The influence of incentive on the performance of mental work. *Psychol. Bull.*, 1935, 32, 571.—Abstract.—J. F. Dashiell (North Carolina).
878. Rudéanu, A. Rôle des canaux semi-circulaires sur la coordination des mouvements. (The role of the semi-circular canals in coordination of movement.) *C. R. Soc. Biol., Paris*, 1935, 119, 497-499.—Bilateral ablation of the semi-circular canals in the frog brought about an equalization of the chronaxies of the antagonists on both sides. Unilateral ablation brought about an equalization of the side opposite to the lesion. Equalization was always manifested at the level of the highest chronaxy, and a close relation was always found between excitability of the antagonists and the behavior of the animal.—M. H. Piéron (Sorbonne).
879. Schochrin, W. Funktionelle Unterschiede des Herz Gefäß-systems bei Männern und Frauen. (Functional differences in the cardio-vascular system for men and women.) *Arbeitsphysiologie*, 1934, 8, 427-434.—Study of pulse, respiration and blood

pressure of male vs. female shop workers before and after work on an ergograph gives essentially negative results. Blood pressure goes up slightly more with women than with men.—*H. E. Burt* (Ohio State).

880. Sinelnikoff, E. I., & Markeloff, G. I. *Do vcheniya pro vistsero-vistseralni refleksi.* (The study of viscerovisceral reflexes.) *Méd. exp., Kharkov*, 1935, No. 5, 89-92.—Experiments upon animals with and without spinal cord destruction indicate that the response to stimulation of abdominal or pelvic organs is of a diffuse character, involving more than the segments with which the stimulated organs are connected, and thus arguing for extramedullary, intra-segmental connections. Thus mechanical excitation of the rectum in an animal with intact cord may provoke augmented uterine tonus as well as defecatory reactions. Such reflexes have a short latent period and undergo rapid extinction. With thoracico-lumbar extirpation up to the fourth thoracic vertebra the latent period is increased and the after-effect is prolonged, but there is still reflex function.—*F. S. Keller* (Colgate).

881. Spaier, A. *La nature et les éléments psychiques de l'habitude.* (Nature and the mental elements of habit.) *J. Psychol. norm. path.*, 1935, 32, 183-199.—The author discusses the following points; (1) What have all habits in common? (2) How can the strength of habits be explained? (3) Is it not necessary to comply with certain inclinations and values in order to form habits? (4) Are there not certain mental constituents of habits and do not these mental attributes best explain habits? He concludes that habits do not function without the aid of consciousness. Although founded on instincts, habits are in great part a result of memory, of perception, of judgment and reflection. To have formed a habit is to know something, and it is in order to know more surely that habits are contracted—to know how to act, of course, but also to think more rapidly, more freely and surely.—*R. E. Perl* (Columbia).

882. Spielberg, P. *Einfluss der Ermüdung auf den Gang.* (Influence of fatigue upon walking.) *Arbeitsphysiologie*, 1933, 7, 555-576.—When walking during fatigue the centers of gravity of the members show a decreased vertical amplitude. The subject compensates by shortening his steps.—*H. E. Burt* (Ohio State).

883. Stetson, R. H., & Bouman, H. D. *The coordination of simple skilled movements.* *Arch. néerl. Physiol.*, 1935, 20, 177-254.—Two types of movements are described, viz., ballistic and tension movements. In the former the antagonistic muscles do not contract against each other. The muscle group that drives the member of the body contracts suddenly and relaxes immediately. Both sets of muscles are in a state of relaxation while the movement is in progress. The antagonists come into action near the end of the movement, if at all. This type of movement is the most economical one and has been cultivated in all forms of repeated movements that take place at rapid rates. Ballistic movements can be precisely regulated as to both force and timing.

Tension movements are exemplified by the general muscular fixations which we call posture, and by slow controlled movements of the body. In these movements the antagonistic muscles are in a constant state of contraction against each other. The early fatigue of tension movements is ascribed to the waste of energy incurred by mutual resistance of the opposing muscle groups.—*C. P. Stone* (Stanford).

884. Takamine, H. *The effect of high temperature, humidity and air current upon the efficiency of mental and physical works.* *Jap. J. appl. Psychol.*, 1935, 3, 367-448.—A general historical outline of studies on the effect of high temperature, humidity and air current upon mental and physical efficiency, referring to those of Thorndike, Dexter and Huntington with special reference to the invention of kathermometer, is followed by the author's own experiments in which comfort index in relation to external temperature, humidity and air current as well as vital index involving body temperature, respiration and pulse are considered in connection with materials obtained from 2017 female workers employed in a spinning factory. It is pointed out that in favorable conditions of these atmospheric factors the difference of the rise of body temperature, the respiration frequency and pulse is always very small, and this keeps pace with efficiency of work. Though in summer the open air is generally more comfortable than indoors, work inside the factory is more efficient owing to physical composure if the room temperature is comfortably adjusted. Besides, the adjustment of temperature and humidity by means of a cooling arrangement makes atmospheric change as slight as possible, and this is essential particularly for hand work such as spinning.—*R. Kuroda* (Keijo).

885. Taylor, J. H. *Relaxation learned in a somnambulistic trance.* *Psychol. Bull.*, 1935, 32, 734-735.—Abstract.—*J. F. Dashiell* (North Carolina).

886. Travis, R. C. *The latency and speed of the eye in saccadic movements.* *Psychol. Bull.*, 1935, 32, 711.—Abstract.—*J. F. Dashiell* (North Carolina).

887. Warren, N. *Over-compensation in time relationships of bilateral movements of the fingers.* *Amer. J. Psychol.*, 1935, 47, 580-596.—100 S's were instructed to press simultaneously two telegraph keys each time a signal light flashed. A neon light flashed to indicate which hand had actually pressed first. 65 of the S's were right-, 35 left-handed, on the basis of the hand used in writing. In some series the index finger of the left hand was used with the little finger of the right hand; in others the index finger of the right and the little finger of the left; all others were done with the two index fingers. The results showed that: "The less-used finger consistently moved first in 66.7% of the comparisons. The opposite was true in 15.8%, while in 17.5% of the cases neither finger led consistently. The greater the disparity in use between the fingers involved, the more pronounced was the tendency for over-compensation in time relationships. . . . The effect of fatigue was to cause a consistent precedence of the movement of the fatigued over the non-fatigued finger. The

weight lifted by the less-used finger was consistently judged heavier in measures of weight discrimination. . . . The r between the relative weight estimation by the fingers and the proportion of leads in 'simultaneous' movement was .524.—*D. E. Johannsen* (Skidmore).

888. Warren, N. The effect of fatigue on priority of bilateral manual movements. *Psychol. Bull.*, 1935, 32, 547.—Abstract.—*J. F. Dashiell* (North Carolina).

889. Waters, R. H. A critique of some principles of learning. *Psychol. Bull.*, 1935, 32, 678.—Abstract.—*J. F. Dashiell* (North Carolina).

890. Watson, A. J. An experimental analysis of factors related to hand steadiness. *Psychol. Bull.*, 1935, 32, 547-548.—Abstract.—*J. F. Dashiell* (North Carolina).

891. Wessell, N. Y. The judgment of manual expressions. *Psychol. Bull.*, 1935, 32, 571-572.—Abstract.—*J. F. Dashiell* (North Carolina).

892. Wojciak, P. [Arterial pressure and pulse of children after work of varied intensity.] *Przeegl. Fizjol. Ruchu*, 1933, 5, 34-67.—The time required for pulse to return to normal varies with the length of the working period. The systolic blood pressure returns to normal regularly after short work but in an irregular fashion after prolonged work. Diastolic pressure is somewhat similar.—*H. E. Burtt* (Ohio State).

[See also abstracts 708, 711, 713, 734, 744, 757, 767, 770, 774, 794, 795, 801, 806, 809, 814, 820, 833, 893, 900, 902, 909, 930, 934, 938, 942, 977, 980, 1017, 1035, 1038, 1154, 1222, 1241, 1250, 1253, 1268, 1270.]

PLANT AND ANIMAL BEHAVIOR

893. Abuladze, K. S. The cortical activity of dogs deprived of "distant" receptors (sight, hearing, and smell). *Rep. XV int. physiol. Congr., Moscow*, 1935.—Fairly complicated conditioned reflexes from receptors of the skin were developed in dogs deprived of the optic, auditory and olfactory receptors. However, it was impossible to evoke during any one day more than one type of conditioned reflex. Thus if the conditioned reflex associated with acid has been used for experimentation at a given day, a temporary loss of conditioned reflexes established with feeding or other conditioned stimuli was observed. General decrease of cortical efficiency due to absence of the three principal distant receptors, and decrease of cortical tonus due to exclusion of a large number of external stimuli, are given as reasons for the findings. However, the animals show great individual differences in such experiments.—*D. P. Boder* (Lewis Institute).

894. Alexander, G. Is a pacemaker involved in synchronous flashing of fireflies? *Science*, 1935, 82, 440.—A slight difference in time of flashing (though not in frequency) between insects that are some distance apart has been observed. Each flash appears as a pulse of light moving with great rapidity.

The observations are in favor of the view that there is a pacemaker stimulating the synchrony and that the latent period of response to the stimulus by the individual insects is extremely short. It is suggested that the pacemaker is a continuous as well as an initiating factor.—*R. Goldman* (Clark).

895. Allard, H. A. Synchronous flashing of fireflies. *Science*, 1935, 82, 517-518.—Synchronism was experimentally induced in a population of quiescent females, but with a population of males flying and flashing around indiscriminately there could have been no synchronism induced. No males tended to flash in unison or descend to females. The synchronous flashing does not necessarily fall into the category of mating behavior, but may result from some organic law of rhythmic appreciation. Referring to the original note in *Science*, 1916, in which the synchronous flashing was described as moving in "waves," it is explained that the word "wave" meant a period of marked activity, as in "wave of enthusiasm."—*R. Goldman* (Clark).

896. Bayroff, A. G. Repetitious errors in light discrimination. *Psychol. Bull.*, 1935, 32, 695.—Abstract.—*J. F. Dashiell* (North Carolina).

897. Berland, L. Quelques traits du comportement des hyménoptères sphéigiens. (Some behavior traits of the sphegidean hymenoptera.) *Ann. Sci. nat.*, 1935, 18, 53-66.—Special attention is given to the genera of *Sphex*, *Ammophila* and *Sceliphron*. Each of these forms has its own type of inherited behavior which neither isolation nor change of environment changes. The author objects to the use of the word "tool" to describe the use of a stone for tamping the earth, because of the confusion arising from such usage.—*M. H. Piéron* (Sorbonne).

898. Berland, L. Araignées et pompiles. (Spiders and Pompilidae.) *Arch. Zool. exp. gén.*, 1935, 75, 195-210.—The Pompilidae form a very large family which is scattered over the entire world and is characterized by the fact that its members hunt only spiders. Their methods of hunting and paralyzing their prey are discussed. Among the numerous families of spiders which serve as prey, Berland found certain cribellated ones which offered an example of acquired activity resulting in a very efficacious protection against their enemy, in that they spin an extremely adhesive web which the Pompilidae cannot pierce.—*M. H. Piéron* (Sorbonne).

899. Both, M. Die Regulation des Luftschöpfens bei *Notonecta glauca* L. (Regulation of the taking of air in *Notonecta glauca* L.) *Z. vergl. Physiol.*, 1934, 21, 167-175.—An increase in atmospheric pressure causes the back-swimmer *Notonecta* to rise to the surface. This response is attributable to a decrease in the volume of available air, which reduces buoyancy, stimulating the insect and forcing it to rise. This was shown by various experimental changes in buoyancy. Contrary to Weber, the antennae are not involved in the mechanism of this response.—*T. C. Schneirla* (New York University).

900. Brown, R. H. A study of the spectral sensitivity of the rabbit by a conditioned reflex technique.

Psychol. Bull., 1935, 32, 696-697.—Abstract.—J. F. Dashiell (North Carolina).

901. Bruce, R. H. A further study of the effect of variation of reward and drive upon the maze performance of rats. *J. comp. Psychol.*, 1935, 20, 157-182.—Using a 14-unit multiple-T maze and 30 white rats, the author attempted to answer a number of questions concerning the role of motivation in learning. Comparison of a 24-hour hunger drive with a 24-hour thirst drive showed the former to be more effective. When, after 50 days of training, the rewards were shifted in such a manner as to render them incongruous with the drive, there was a marked decrement in efficiency of performance. Repeated shifting of reward and drive gradually lessened the resulting decrement. Finally there was no decrement following a shift. Habit interference is invoked to explain the decrements. Depending upon the technique employed, either a general drive or a more specific one could be established. After performance had become consistent, a change such that retracing was now possible led to decreased efficiency. Restoration of the former conditions led to a rapid reestablishment of the former efficiency. On the basis of these results and those involving loss of efficiency with a change in reward-drive relationships the author draws a distinction between learning and performance. Tests of retention at 110 days showed decreased accuracy, but the accuracy underwent no further decrease 7, 35, and 49 days later. Bibliography.—N. L. Munn (Pittsburgh).

902. Bruce, R. H. An experimental investigation of the thirst drive in rats with especial reference to the goal-gradient hypothesis. *Psychol. Bull.*, 1935, 32, 677-678.—Abstract.—J. F. Dashiell (North Carolina).

903. Brunner, G. Über die Sehschärfe der Elritze (*Phoxinus laevis*) bei verschiedenen Helligkeiten. (Concerning the visual acuity of the minnow *Phoxinus laevis* at different brightnesses.) *Z. vergl. Physiol.*, 1934, 21, 296-316.—Minnows were trained to pass to a black-white striped field and receive food, but to avoid an adjacent gray field. 70% efficiency in the habit was attained only after many trials, over a period of more than 14 weeks. In the tests visual acuity was found to increase in logarithmic relation to the intensity of illumination, and the transition from daylight to twilight vision was characterized by an abrupt change in visual acuity. Near an intensity of .002 lux acuity decreased sharply, color vision ("red" discriminated from "gray") disappeared, and in histological studies signs of darkness adaptation were found. In the minnow rod vision drops abruptly to its minimum, in decided contrast to human brightness vision.—T. C. Schneirla (New York University).

904. Clark, L. B. The visual acuity of the fiddler-crab, *Uca pugnax*. *J. gen. Physiol.*, 1935, 19, 311-321.—A modified moving pattern system is used. The fact that the visual acuity of the crab varies with the log of the intensity of illumination, as in man, the bee, and *Drosophila*, supports the explanation

of the variation of visual acuity as a function of illumination in terms of the distribution of functional ommatidia. In the crab, monocular and binocular visual acuity is similar, with a maximum of 0.0042. The minimum visual angle corresponds to approximately twice the minimum angle between two adjacent receptors.—M. A. Rubin (Clark).

905. Combes, Mme. M. Observations d'après lesquelles l'activité des fourmis serait le fait d'une minorité de travailleuses dans tous les groupements étudiés. (Observations indicating that the activity in ant colonies is a matter of a minority of the workers for all the colonies studied.) *Ann. Sci. nat.*, 1935, 18, No. 10, 97-102.—According to the casual observer, the activity in a nest of ants seems to be a matter involving all the colony. However, the author, after a great number of observations covering more than four years, believes that out of a rather large number of workers living in a colony, a relatively small number carry on the activity necessary for the welfare of the group and that these same ants devote themselves to a given task over a period of at least several days. These ants, if isolated from the nest and placed alone with the larvae, continue their work and succeed in performing their customary duties alone. In general, the somewhat older ants are the active ones.—M. H. Piéron (Sorbonne).

906. Crawford, M. P. Cooperative behavior in chimpanzee. *Psychol. Bull.*, 1935, 32, 714.—Abstract.—J. F. Dashiell (North Carolina).

907. Crawford, M. P., & Nissen, H. W. Food-sharing in chimpanzees. *Psychol. Bull.*, 1935, 32, 557.—Abstract.—J. F. Dashiell (North Carolina).

908. Crozier, W. J., & Pincus, G. Analysis of the geotropic orientation of young rats. IX. *J. gen. Physiol.*, 1935, 19, 211-221.—Adult hybrid rats from the cross of races A and B react to geotropic stimulation in exactly the same manner as their B parents. The proportionate modifiable variability of orientation agrees quantitatively with that for the B parents. Adrenin, which distorts the θ vs. α curve, does not disturb these relationships. Young rats of the F₁ generation show a greater proportion of unmodifiable variation of geotropic orientation. These findings are considered as support for the conclusion that the genetic composition of rats is the limiting factor in their ability to exhibit variation of geotropic orientation and that the difference in the reaction of the young hybrids, as compared with the adults, may be due to a kind of temporary disharmony of developmental events.—M. A. Rubin (Clark).

909. Davis, J. E., & Brewer, N. Effect of physical training on blood volume, hemoglobin, alkali reserve and osmotic resistance of erythrocytes. *Amer. J. Physiol.*, 1935, 113, 586-591.—Two dogs were exercised by swimming and two on a treadmill for periods of 6 to 8 weeks. Blood and cell volume decreased during the first week of exercise, but later became greater than normal. It is concluded that oxygen debt during exercise was a stimulus for increased

blood formation.—T. W. Forbes (N. Y. Psychiatric Institute).

910. Detwiler, S. R. Experimental studies upon the development of the amphibian nervous system. *Biol. Rev.*, 1933, 8, 269-335.—By means of grafting and excision experiments in embryonic forms, alterations in development of the peripheral and central nervous systems are studied. Explanations for the results are offered, discussed, and related to normal development. Extensive literature is cited.—M. A. Rubin (Clark).

911. Fields, P. E. Studies in concept formation. II. A new multiple stimulus jumping apparatus for visual figure discrimination. *J. comp. Psychol.*, 1935, 20, 183-203.—A discrimination apparatus which involves the jumping technique and in which five stimuli may be presented simultaneously is described. Data on visual discrimination obtained with this apparatus are also reported. Rats trained to discriminate between a pair of figures also discriminated the positive figure when it was presented simultaneously with four other figures. Animals trained to discriminate between white figures on black grounds also discriminated when the black-white relationships were reversed, the two types of discrimination being present at the same time. When an inner and an outer figure were presented, the outer figure possessed the greater discrimination value. Among the several advantages claimed for this apparatus over the paired-stimulus types is the better systematic variation of kinesthetic factors, leading to greater emphasis of the visual cues and a consequent decrease in the number of trials required to learn. Data on retention, the difference threshold for rotated equilateral triangles, and reactions to new combinations of figures are also reported.—N. L. Munn (Pittsburgh).

912. Fields, P. E. The effect of pheno-barbital upon the learning and retention of elevated T-maze patterns. *Psychol. Bull.*, 1935, 32, 743.—Abstract.—J. F. Dashiell (North Carolina).

913. Fischel, W. Die Entwicklung der Tierarten und ihre Abhängigkeit von deren Seele. (The evolution of the animal species and its dependence upon their psyche.) *Umschau*, 1935, 39, 571.—Fischel discusses the psychological abilities of animals and the animal learning process as it is observed in the natural environment. The data are brought into relationship with the evolution of various species.—P. Klimpel (Leipzig).

914. Girden, E. Effect of roentgen rays upon hearing in dogs. *J. comp. Psychol.*, 1935, 20, 263-290.—Tests of auditory acuity were carried out by means of the conditioned response technique, the animal being required to raise its foot within a definite time following the onset of the sound in order to avoid receiving a shock. Eight of the dogs which had been subjected to rays generated at 80-100 k.v. peak manifested a transient increase in acuity amounting to about 5.5 decibels. The effect lasted for from two to five weeks. There was then a relapse to the former acuity. Control animals manifested no such effects.

Four animals showed a further rise in acuity, two of them under constant irradiation and two when radiated a second time. Other animals subjected to stronger doses failed to manifest any change in acuity. Possible explanations of the results are suggested. Bibliography.—N. L. Munn (Pittsburgh).

915. Gontarski, H. Wabenzellmasse bei *Apis mellifica*. (The size of comb cells of *Apis mellifica*.) *Z. vergl. Physiol.*, 1935, 21, 681-698.—The experimenter measured the size of comb cells built under different natural and experimental conditions. First, the average diameter of cells differs according to certain individual factors, particularly the average size of the builder bees. The importance of bodily size is attributable to a kinesthetic sensitivity to the size of the cell, effective through the legs. When large pre-stamped wax cell bases were provided the normal average cell size was exceeded, but beyond a certain size of cell base the bees constructed irregularly arranged cells with different numbers of sides. Second, a socially conditioned pattern of building activity is fundamental. Variations in seasonal and other general conditions (food supply, colony condition) were found to determine the construction of large drone cells, smaller worker cells, or intermediate cells at different times. The queen appears kinesthetically sensitive to the size of comb cells, a factor which controls her egg laying. The activity was usually delayed for a few days when the queen was presented with cells larger or smaller in diameter than those to which she had just responded in 'aying eggs. Smaller cells, through their kinesthetic effect, must release the fertilization mechanism (hence worker eggs are then laid), but a larger cell size must inhibit this mechanism so that unfertilized drone eggs appear.—T. C. Schneirla (New York University).

916. Hamilton, H. C., & Matlack, H. H. A method of studying the modifiability of the stereotropism in the albino rat. *Psychol. Bull.*, 1935, 32, 551-552.—Abstract.—J. F. Dashiell (North Carolina).

917. Hoadley, L. Autotomy in the anomuran *Porcellana platycheles* (Pennant). *Biol. Bull.*, 1934, 67, 494-503.—Many of the lower animals having exoskeletons are able to cast off their limbs and other appendages by a reflex mechanism. In a study of *Porcellana* the authors find that this animal can autotomize readily, the male doing so more frequently than the female and the animal with all its appendages manifesting the reflex more readily than animals which have already cast some of their legs.—D. J. Ingle (Mayo Foundation).

918. Holst, E. v. Motorische und tonische Erregung und ihr Bahnenverlauf bei Lepidopterenlarven. (Motor and tonic excitation and the nervous paths involved in lepidopteran larvae.) *Z. vergl. Physiol.*, 1934, 21, 395-414.—In caterpillars of more than 300 moth species certain nerves and tracts were sectioned and the larvae tested for postural and locomotor control and for reflex activity. A conduction-path scheme for the central nerve cord is described, the vegetative nervous system is outlined, and the peripheral connections of the central system are

plotted. The respective arcs of the excitation and bending reflexes, of the tonus-inhibiting reflex, and the more complicated path of the peristaltic waves, are described. Muscle tonus is locally maintained by continuous impulses from the respective segments, but varies under the influence of tonus-inhibiting reflexes aroused by changes in skin tension or by gentle contact. While brain function is not necessary for maintenance of tonus, it is important in controlling the bilateral symmetry of tonus. The inferior esophageal ganglion is involved in the transmission and summation of impulses which pass along described paths to all segmental ganglia during peristaltic movement, but is not an indispensable coordinating center for this activity. The role of nervous conduction in the arousal of local segments during peristaltic movement, and the importance of excitation threshold for the arousal of ganglia in this activity, are among the problems considered.—T. C. Schneirla (New York University).

919. Hörmann, M. Über den Helligkeitssinn der Bienen. (Concerning the brightness sensitivity of the bee.) *Z. vergl. Physiol.*, 1934, 21, 188-219.—The bee responds on the basis of relative difference in brightness more readily than on an absolute basis. Once trained, it transfers to new pairs of stimuli chosen from any portion of the Hering gray series. In the training, one gray was presented as an inner disk surrounded by a concentric field of the other gray, and in tests with new pairs the brightnesses were spatially reversed as a control. Transfer to brighter pairs of stimuli is interfered with by a natural preference for black, which may be overcome to some extent by training. Response on an absolute basis may be learned, but is rather difficult to establish, and the difference threshold is greater in value than it is in "relative" responses. In these experiments, to eliminate discrimination in relation to background brightness, a disk with sectors of different gray value was slowly rotated beneath the pair of critical stimuli. Training in the darkroom was established with difficulty, but with diffuse illumination of the room this difficulty disappeared. Human subjects of different ages learned the brightness discriminations more readily than did the bees, and performed successfully after longer intervals of time.—T. C. Schneirla (New York University).

920. Kennedy, J. L. Visual thresholds of real movement in the cat. *Psychol. Bull.*, 1935, 32, 553-554.—Abstract.—J. F. Dashiell (North Carolina).

921. Koch, A. M. The limits of learning ability in cebus monkeys. *Psychol. Bull.*, 1935, 32, 554-555.—Abstract.—J. F. Dashiell (North Carolina).

922. Krechovsky, I. Brain mechanisms and brightness discrimination. *Psychol. Bull.*, 1935, 32, 744-745.—Abstract.—J. F. Dashiell (North Carolina).

923. Locke, N. M. Color constancy in the rhesus monkey. *Psychol. Bull.*, 1935, 32, 552.—Abstract.—J. F. Dashiell (North Carolina).

924. Macht, D. I., & Bryan, L. Influence du venin du serpent sur le comportement de rats dans un labyrinthe circulaire. (The influence of snake venom on

the behavior of rats in the circular maze.) *C. R. Soc. Biol., Paris*, 1935, 119, 306-310.—The authors studied the influence of the nervous system on behavior by examining the behavior of rats in the Watson circular maze while in search of food placed in the center. Injections of small doses of cobra venom in rats trained to seek food in this manner produced an initial stimulation which was occasionally followed by a secondary period of depression. If the dose was strong, this depression was immediate. Rattlesnake venom always produced depression, whatever the dose. Injections of human or cat serum produced no effect.—M. H. Piéron (Sorbonne).

925. Maier, N. R. F. Some new tests of reasoning in rats. *Psychol. Bull.*, 1935, 32, 679.—Abstract.—J. F. Dashiell (North Carolina).

926. Maslow, A. H. The dominance drive as a determiner of social behavior in infrahuman primates. *Psychol. Bull.*, 1935, 32, 714-715.—Abstract.—J. F. Dashiell (North Carolina).

927. Marx, J. Ueber den nervösen Mechanismus der Bewegungen des abgeworfenen Eidechsen-schwanzes. (On the nervous mechanism of the movements of the cast-off lizard tail.) Leipzig: Radelli & Hille, 1935. Pp. 17.—R. R. Willoughby (Clark).

928. Maurer, S. III. The effect of partial depletion of vitamin B(B¹) upon performance in rats. *J. comp. Psychol.*, 1935, 20, 309-317.—Using the Carr maze under conditions previously described by Maurer and Carr, the author attempted to ascertain the effect of early partial depletion of vitamin B(B¹) on the trials, errors and time required to reach a given level of maze performance. There was a control group of 157 animals. Three groups consisting of from 37 to 77 rats were suckled during the first 12 to 15 days of life by partially depleted mothers. The results lead the author to conclude that "In rats, a rapidly growing nervous system, deprived of adequate quantities of vitamin B(B¹), is injured to the degree that, judging from several criteria of learning ability, it requires about twice as many trials and errors to learn a maze as do rats whose nervous systems have been fed normally during this early period of rapid growth." Suggestions are made concerning the best kind of diet for expectant and nursing mothers. Bibliography.—N. L. Munn (Pittsburgh).

929. Maurer, S., & Carr, H. A. II. The empirical determination of maze reliability. *J. comp. Psychol.*, 1935, 20, 291-308.—Using a carefully standardized technic, the authors attempted to determine the reliability of the Carr maze pattern. "The average scores of 3 groups are, trials 38.4, 34.0, and 37.9; errors 85.7, 95.8, and 115.3; time 1547.5, 1859.0, and 1915.0, respectively. The relative reliability of trial, error, and time score for groups of 40 to 60 animals when tested by the technic given is trials, time, and errors. Three principles governing the choice of criterion of learning are given. The criterion of learning for groups of 40 to 60 animals tested by a controlled technic of 8 errorless out of 10 consecutive runs is recommended, as it is more reliable than four

errorless out of five consecutive runs and does not unduly prolong the experiment. Two errorless out of three consecutive runs is unreliable, as numbers of each group make zero scores. Scores by litter and average scores by litter are given. The average scores by litter give an almost symmetrical learning curve, while the scores by individuals give the typical skewed maze learning curve." The split-litter technic was abandoned as too unreliable, the members of each litter showing a wide range of variation. Bibliography.—N. L. Munn (Pittsburgh).

930. Metfessel, M. Objective studies of roller canary song. *Psychol. Bull.*, 1935, 32, 716-717.—Abstract.—J. F. Dashiell (North Carolina).

931. Mettler, F. A. Cortifugal fiber connections of the cortex of *Macaca mulatta*. The frontal region. *J. comp. Neurol.*, 1935, 61, 509-542.—A histological study. There are four pages of concluding statements that describe the course of fibers leaving the frontal regions of the cortex of the rhesus monkey.—C. P. Stone (Stanford).

932. Murchison, C. Preliminary identification of social law through the medium of a general equation constructed from experimental generalizations that describe five variables in a hierarchical system of *Gallus domesticus*. *Psychol. Bull.*, 1935, 32, 715-716.—Abstract.—J. F. Dashiell (North Carolina).

933. Musgrave, H. Comparison of ratings of roller canary tours in isolation and in context. *Psychol. Bull.*, 1935, 32, 717.—Abstract.—J. F. Dashiell (North Carolina).

934. Nicholas, J. S., & Barron, D. H. Limb movements studied by electrical stimulation of nerve roots and trunks in *Amblystoma*. *J. comp. Neurol.*, 1935, 61, 413-431.—By the use of electrical stimulation techniques the authors demonstrated that the sensory component of the amphibian nervous system is exceedingly important in coordinating the activity of muscle groups. A pattern of reaction can to a large extent be controlled through sensory stimuli that activate the motor component of one segment of the spinal cord, which in turn activates adjacent cord segments through proprioceptive impulses.—C. P. Stone (Stanford).

935. Nissen, H. W., & Elder, J. H. The influence of incentive on delayed reaction performance of chimpanzees. *Psychol. Bull.*, 1935, 32, 556.—Abstract.—J. F. Dashiell (North Carolina).

936. Nissen, H. W., & McCulloch, T. L. A comparison of the "paired stimuli" and "strata" techniques in establishment of visual discriminations by chimpanzee. *Psychol. Bull.*, 1935, 32, 697-698.—Abstract.—J. F. Dashiell (North Carolina).

937. Pfaffmann, C. Differential responses of the new-born cat to gustatory stimuli. *Psychol. Bull.*, 1935, 32, 697.—Abstract.—J. F. Dashiell (North Carolina).

938. Reynolds, H. E. The disinhibiting effect of electric shock upon the maze performance of the white rat. *Psychol. Bull.*, 1935, 32, 676-677.—Abstract.—J. F. Dashiell (North Carolina).

939. Rowley, J. B., & Bolles, M. M. Form discrimination in white mice. *J. comp. Psychol.*, 1935, 20, 205-210.—White mice discriminated between a black square and a black circle. Discrimination was maintained with the brightness relationship reversed, i.e., white forms on black grounds. In making their discriminations the animals pushed open swinging doors which contained the forms and behind which food was obtainable. From 20 to 90 trials were required for learning. Bibliography.—N. L. Munn (Pittsburgh).

940. Ruch, F. L. Experimental studies of the factors influencing the difficulty of blind alleys in linear mazes. III. Is there an anticipatory tendency in maze learning? *J. comp. Psychol.*, 1935, 20, 113-124.—After reviewing evidence concerning the existence of an anticipatory tendency in maze learning, the author presents results of his own which show no evidence of such a tendency. Nine rats were trained with an RLRLRL sequence of turns in the maze pathway and with 5 grams of food as a reward. A similar group was trained on a mirror image of the maze pattern and with a similar reward. Comparable groups were trained on the same mazes, but under conditions of decreased hunger motivation. These animals made more errors than those trained with greater motivation. The data also show that blinds pointing to the same hand as the final correct path are entered with increasing relative frequency as learning progresses. This fact is explained as being due to "the influence of a goal-gradient-value differential growing out of the systematic differences in the location of the two types of units in the maze." Expressing entrances into the fifth blind alley as proportions of entries into its proper sub-maze yields no evidence in favor of an anticipation factor. Extensive bibliography.—N. L. Munn (Pittsburgh).

941. Sand, A. The comparative physiology of color response in reptiles and fishes. *Biol. Rev.*, 1935, 10, 361-381.—The reactions of the pigments in reptiles and teleost fishes to illumination and background patterns are reviewed and a theory is proposed to explain the phenomena.—M. A. Rubin (Clark).

942. Schlutz, F. W., Morse, M., & Hastings, A. B. Acidosis as a factor of fatigue in dogs. *Amer. J. Physiol.*, 1935, 113, 595-601.—Dogs were exercised to exhaustion by swimming and treadmill. Alkalosis by 9 to 12 grams of sodium bicarbonate in 3 to 4 gram doses often reduced the capacity for muscular exercise. Acidosis from a single dose of 3 grams ammonium chloride often increased and in none reduced such capacity. Previously induced alkalosis did not postpone the onset of fatigue. It is concluded that acidosis is not a causal factor of fatigue in dogs.—T. W. Forbes (N. Y. Psychiatric Institute).

943. Schmid, B. Nasenleistung und psychologische Fähigkeit des Hundes. (Nasal function and psychological ability of the dog.) *Umschau*, 1935, 39, 457.—The dog has a good memory for odors. His ability to concentrate is significantly better than that of higher apes.—P. Klimpel (Leipzig).

944. Shepard, J. F. More about the floor cue. *Psychol. Bull.*, 1935, 32, 696.—Abstract.—J. F. Dashiell (North Carolina).

945. Smith, K. U. The visual acuity of the cat in relation to discrimination distance. *Psychol. Bull.*, 1935, 32, 552-553.—Abstract.—J. F. Dashiell (North Carolina).

946. Spragg, S. D. S. The displacement of critical responses in spatial stylus mazes by chimpanzees. *Psychol. Bull.*, 1935, 32, 555-556.—Abstract.—J. F. Dashiell (North Carolina).

947. Spragg, S. D. S. The displacement of critical responses in temporal stylus maze problems by chimpanzees. *Psychol. Bull.*, 1935, 32, 680.—Abstract.—J. F. Dashiell (North Carolina).

948. Subklew, W. Reizphysiologisches Verhalten der Larve von *Agriotes obscurus* L. (The stimulus physiology of behavior in the larva of *Agriotes obscurus* L.) *Z. vergl. Physiol.*, 1934, 21, 157-166.—The larva of the click beetle is positively geotactic. Specimens tested in an earth-filled glass tube moved predominantly downward. The general movement of these wireworms increases in vigor in diffuse light, and they move from the source of directed bright light. They soon wander from highly reflective surfaces, but remain on dark surfaces. They come to rest most readily when in general contact with a surface. The larvae withdraw from moderately intense contact or give their defense reaction, raising the thorax high and opening the mandibles, and when more excited the posterior segments are bent dorsally. Solid smooth substrata are abandoned in favor of rough surfaces. If sufficiently moist, a surface of loose sand readily elicits the boring response. Humidity is shown to be an important controller of general activity.—T. C. Schneirla (New York University).

949. Thorner, W. Trainingsversuche an Hunden. III. Histologische Beobachtungen an Herz- und Skelettmuskeln. (Studies of exercise with dogs. III. Histological examination of heart and skeletal muscles.) *Arbeitsphysiologie*, 1934, 8, 359-370.—Cardiac muscles show thickening from 6 to 14% in exercised dogs as compared with non-exercised dogs. The leg muscles do not show this increase, but there is an increase in the nuclei of the cells.—H. E. Burt (Ohio State).

950. Tinbergen, N. Über die Orientierung des Bienenwolfes (*Philanthus triangulum* Fabr.). II. Die Bienenjagd. (Concerning orientation in the bee wolf. II. The bee hunt.) *Z. vergl. Physiol.*, 1935, 21, 699-716.—In the capture of prey by *Philanthus*, the approaching, pouncing, grasping, and stinging phases have differentiated sensory controls in which vision and olfaction play distinctive and interchanging roles. The wasp, sitting or flying, is first excited by movement of a small object within 30 cm. Swinging objects differing from the bee in size and shape are responded to within this distance. Olfaction comes into play within 5-15 cm., since the wasp places herself to the leeward of the prey in the approach. In certain

tests, wasps swooped toward bumblebees, flies, and other insects, but seldom continued the reaction as with honeybees. The pounce upon the prey is visually controlled, but only booty which offers the characteristic honeybee chemical is stung and held. In the vicinity of the nest this wasp relocates a transported bee which has been accidentally dropped, first moving in a spiral course outward from the starting place. The prey is located within a meter on the basis of olfaction. Vision is secondary in importance. Tested wasps responded similarly to pieces of wood treated with bee chemical.—T. C. Schneirla (New York University).

951. Verrier, M. L. La réfraction de l'oeil des poissons. (Refraction of the eye in fish.) *Bull. Soc. zool. Fr.*, 1935, 59, 535-538.—A criticism of the experimental methods used by A. Magnan, C. Magnan, and A. de Villelongue in their determination of the index of refraction of the crystalline lens and the aqueous and vitreous humors, as well as the radius of curvature of the crystalline lens.—M. H. Piéron (Sorbonne).

952. Viaud, G. Phototropisme des daphnies en lumières monochromatiques d'égal énergie. (Phototropism of daphnids in monochromatic lights of equal energy.) *C. R. Soc. Biol., Paris*, 1935, 119, 1007-1009.—The author believes that chromatic sensitivity exists in daphnids. Using Nagel filters he found that the quality of the light played as important a role in phototropism as does intensity. In these animals there were always two maxima of attraction, one in the most refrangible part of the spectrum and one in the least refrangible. However, these maxima could be displaced by variations in energy.—M. H. Piéron (Sorbonne).

953. Visser, J. A., & Rademaker, G. G. J. Die optischen Reaktionen grosshirnloser Tauben (III). (Optical reactions of decerebrate doves.) *Arch. néerl. Physiol.*, 1935, 20, 284-295.—Decerebrate doves avoid running into either small or large opaque obstacles standing in their way, but evade a glass wall only after touching it. A horizontal string stretched head or breast high will be avoided, but one just above the floor will be tripped over. Shadows are avoided. While flying the birds avoid walls, beams, stretched strings, and objects that reflect an image (mirrors), but fly into transparent glass. Intensity of light and contrast of objects play an important role in determining the reactions to objects under the foregoing conditions. While sitting quietly decerebrate doves hardly react at all to approaching objects, but they do avoid them while moving about. Also, differential responses are made to objects approaching from in front and from behind. These may be due to the two fovea in the dove's eyes.—C. P. Stone (Stanford).

954. Warden, C. J., Jenkins, T. N., & Warner, L. H. Comparative psychology: a comprehensive treatise. Vol. 1, Principles and methods. New York: Ronald Press, 1935. Pp. 504. \$4.50.—The present volume gives the background for the study of plant and animal behavior. Chapters are devoted

to the following topics: development of modern comparative psychology; the natural science viewpoint in biology; the biological foundations of comparative psychology; classification and analysis of behavior; methods of testing receptive capacities; methods of testing reactive capacities; and the comparative morphology and physiology of organisms. There are 141 illustrations and 205 references cited in the bibliography. The subject is presented from an objective point of view.—*W. S. Hunter* (Clark).

955. Wedell, C. H. Taste sensitivity in the white rat. *Psychol. Bull.*, 1935, 32, 551.—Abstract.—*J. F. Dashiell* (North Carolina).

956. Wenrick, J. E. Some effects of partial suprenalectomy upon the learning of white rats in a water maze. *J. comp. Psychol.*, 1935, 20, 243-262.—A review of the pertinent literature is followed by the report of an experiment in which animals with the right or with both the right and one-half of the left suprarenals removed learned a simple water maze. There was a normal group of 18 animals. The operated animals were divided into groups of 10. One group of a kind learned the maze 2 weeks after the operation while a similarly constituted group learned it after 6 weeks. In terms of average time and average errors there was no significant difference between the performances of the rats with one suprarenal removed and the normal animals. Rats with the right and about half of the left suprarenal removed were, on the other hand, more efficient than normal animals. Less variability was evident in the operated groups. Bibliography.—*N. L. Munn* (Pittsburgh).

957. Willoughby, R. R. The term "Ambystoma." *Amer. J. Psychol.*, 1935, 47, 701-704.—The author analyzes the etymology of the word "Ambystoma," and emphasizes the need for consistency in usage.—*D. E. Johannsen* (Skidmore).

958. Winslow, C. N. The behavior of cats on several problems in association. *Psychol. Bull.*, 1935, 32, 554.—Abstract.—*J. F. Dashiell* (North Carolina).

959. Wolf, E., & Zerrahn-Wolf, G. The dark adaptation of the eye of the honey bee. *J. gen. Physiol.*, 1935, 19, 229-239.—A bee is held in a fixed position so that only head movements are possible. The movement of the antennae in response to a moving stripe system is the measure of the bee's state of photic adaptation. The resulting curve of dark adaptation shows that the sensitivity of the light-adapted eye increases rapidly during the first few minutes in darkness and then more slowly until a maximum level is reached after 25 to 30 minutes. The total increase in sensitivity is about 1000-fold. The adaptation range covered by the bee's eye is about $\frac{1}{10}$ that for the human eye and corresponds closely to the range covered by the rods of the human eye.—*M. A. Rubin* (Clark).

960. Yoshioka, J. G. The physiological maturation of young chimpanzees. *Psychol. Bull.*, 1935, 32, 549.—Abstract.—*J. F. Dashiell* (North Carolina).

[See also abstracts 718, 824, 836, 846, 973, 982.]

EVOLUTION AND HEREDITY

961. Garth, T. R. A study of the foster Indian child in the white home. *Psychol. Bull.*, 1935, 32, 708-709.—Abstract.—*J. F. Dashiell* (North Carolina).

962. Himes, N. E. The birth rate of families on relief: a summary of recent studies in the U. S. A. *Marriage Hyg.*, 1935, 2, 59-63.—A review of five studies of both depression and pre-depression birth rates of both relief and non-relief families is given. The general conclusion is that relief families have a higher birth rate when on relief than when not, and that the birth rate is higher in families on relief than those not on relief. A number of questions concerning the implications of the results are offered.—*R. E. Garner* (Clark).

963. Köhn, W. Die Vererbung des Charakters. Studien an Zwillingen. (Inherited character. Twin studies.) *Arch. Rass.- u. Ges Biol.*, 1935, 29, 1-26.—The study dealt with 24 pairs of identical twins and 37 pairs of fraternal twins. The analysis was based on L. Klages' character schema—material, quality, structure. The experiment showed that inheritance was the dominant factor in character, environment a subsidiary factor. Definite correlation between physical and mental deviations was established, supporting the totalitarian theory. On the basis of data obtained, 50% of the identical twins showed characteristic concordance and 50% prepotent concordance, while in the case of the fraternal twins 50% showed moderate discordance, and 50% a more pronounced discordance. The analogy between similarity of character and physical similarity was evident. The effect of environment was slight.—*S. W. Downs* (Berkeley, Calif.).

964. Reymert, M. L., & Frings, J. Children's intelligence in relation to occupation of father. *Amer. J. Sociol.*, 1935, 41, 351-354.—A study of the occupations of fathers of Mooseheart children shows that there has been little significant change in occupation during the seventeen-year period 1917-34. There is a greater number of children whose fathers were unskilled and semi-skilled workers in Mooseheart than in the general population of Illinois, and there are fewer of the small business, clerical, and professional group. The largest single group of the fathers is that of the skilled laborers. Intelligence of the children of this group is superior to that of a group of Boston children with unskilled workers as fathers. There is little significant difference between the intelligence of the low occupational group and the entire child population at Mooseheart.—(Courtesy *Amer. J. Sociol.*)

965. Spengler, J. J. Notes on abortion, birth control, and medical and sociological interpretations of the birth rate in nineteenth century America. *Marriage Hyg.*, 1935, 2, 43-53.—The article is the first of a series which traces the reactions of American writers to the alleged sociological and other non-economic implications of the decline in the American birth rate. The article also starts a review of the theories advanced to explain the decline.—*R. E. Garner* (Clark).

966. Weygandt, W. *Das Problem der Erbllichkeit bei jugendlichem Schwachsinn und bei Epilepsie.* (The problem of heredity in juvenile feeble-mindedness and in epilepsy.) *Z. ges. Neurol. Psychiat.*, 1935, 152, 644-684.—This article, based upon a lecture delivered at Bern in 1934, is a detailed review of studies of the role of hereditary and non-hereditary factors in various forms of feeble-mindedness and epilepsy. Such practical problems as sterilization are considered.—C. W. Fox (Rochester).

[See also abstract 1104.]

SPECIAL MENTAL CONDITIONS

967. Bergler, E. *Psychoanalysis of a case of agoraphobia.* *Psychoanal. Rev.*, 1935, 22, 392-408.—L. S. Selling (Recorder's Court, Detroit).

968. Binswanger, H. *Klinische und charakterologische Untersuchungen an pathologisch Berauschten.* (Clinical and characterological studies of pathological inebriates.) *Z. ges. Neurol. Psychiat.*, 1935, 152, 703-737.—By pathological intoxications are meant agitations or twilight states, involving excessive emotions and disorders in orientation, which are released by alcohol, often taken in small amounts. The present studies were based upon 174 cases received from 1894 to 1933 in the Psychiatric Clinic at Zurich. Among the clinical forms, the epileptoid is the most frequent. Psychologically, pathological intoxication is a high degree of limiting of consciousness. No causal role can be ascribed to the alcohol itself, one of the main conditions being rather the use of alcohol by certain psychopaths. Bibliography.—C. W. Fox (Rochester).

969. Bremer, F. *Cerveau "isolé" et physiologie du sommeil.* (The "isolated" brain and the physiology of sleep.) *C. R. Soc. Biol., Paris*, 1935, 118, 1235-1241.—The author adopts the hypothesis that sleep, in all mammals, involves the complete or partial isolation of the telencephalon. Using etherized cats, the brain was transected between the mesencephalon and the pons. The complete isolation of the brain, except for the olfactory and optic nerves, resulted in a functional state very similar to although not identical with normal sleep. This state persisted indefinitely and included an extreme myosis as well as an intense and periodic spontaneous electrical activity of the brain.—M. H. Piéron (Sorbonne).

970. Curtius, O. *Das kollektiv Unbewusste C. G. Jungs, seine Beziehung zur Persönlichkeit und Gruppenseele.* (The collective unconscious of Jung and its relationship to the personality and the group-soul.) *Zbl. Psychotherap.*, 1935, 8, 265-279.—An exposition in metaphysical and symbolic terms of Jung's theory of complexes. Curtius stresses the evolutionary aspect of the collective unconscious in the physiological sense as connected with the development of the frontal region and in its dynamic action on the development of the libido and adaptation to the environment. The ego complex is a part of the collective unconscious; even in civilized man its predominance is only relative and it easily merges into group complexes. In the group-soul, "blood" and "soil" represent the collective unconscious. The

"genius loci" is a psychological reality. As to the relation of the personality to the collective unconscious, the individual as an exponent of his group creates in himself a cosmic unity as the collective unconscious flows creatively into consciousness and out to his fellows in the service of humanity.—M. E. Morse (Baltimore).

971. Daly, C. D. *Der Kern des Oedipuskomplexes.* (The kernel of the Oedipus complex.) *Int. Z. Psychoanal.*, 1935, 21, 165-188.—The menstruation trauma is the kernel of the masculine or real Oedipus complex and also its chief source of repression. After the menstruation trauma the son goes through a phase of purely feminine psychic development, the so-called negative Oedipus complex, in which he identifies himself with his mother and longs for a child from the father. The menstruation trauma brings forth a strong death fear of the father. Through the "bloody wound," it also arouses the castration fear, combined with the fear of being eaten up.—H. J. Wegrocki (Worcester State Hospital).

972. Deutsch, F. *Über Euthanasie.* (Euthanasia.) *Int. Z. Psychoanal.*, 1935, 21, 219-234.—Euthanasia is the art of dying peacefully. Factors determining it are: the silencing of feelings of aggression toward others, the giving up of the object-cathexes of this world, and the disappearance of the feeling of guilt. These are achieved through a regression to the lower levels of psychic development at which the dying person can exhibit without guilt the emotional cathexes of his early developmental stages.—H. J. Wegrocki (Worcester State Hospital).

973. Eddy, N. B., & Ahrens, B. *Studies of morphine, codeine, and their derivatives. VI. The measurement of the central effect of codeine, dihydrocodeine, and their isomers by the use of maze-trained rats.* *Amer. J. Psychol.*, 1935, 47, 614-623.—Using the same method as was described in the previous paper (*Amer. J. Psychol.*, 1935, 47, 597-613) trained rats were treated with codeine, dihydrocodeine, and their isomers. The results showed that all the morphine derivatives used had qualitatively the same effect as morphine, but they are weaker in their action.—D. E. Johannsen (Skidmore).

974. Eidelberg, L. *Das Verbotene lockt.* (The lure of the forbidden.) *Imago, Lpz.*, 1935, 21, 352-358.—The lure of the forbidden sometimes gives rise to paradoxical situations. Thus a pupil insisted on eating his lunch after the regular hour at school, thereby postponing sexual (oral) satisfaction to which free access was permitted. Analysis shows that aggression also demanded gratification. This combination was traced to prior circumstances in which the two impulses were simultaneous.—H. D. Spoerl (Northeastern).

975. Encausse, P. *Sciences occultes et déséquilibre mental.* (Occult sciences and mental disequilibrium.) Paris: Editions Pythagore, 1935. Pp. 199. 15 fr.—The author, son of Papus (known for his works on occult sciences), believes that the practice of these sciences, particularly of spiritualism, is harmful to

individuals who are not well balanced. A bibliography of 175 titles.—*M. H. Piéron* (Sorbonne).

976. **Gutheil, E.** The organic symptom in the dream. *Psychoanal. Rev.*, 1935, 22, 432-438.—An analysis of an irritative dream is used as an example of Stekel's technique. The analyst attempts to get at some implied meanings without the patient's help. The patient's globus symptom was found to be a sign of his identification with a suffocating person on the basis of self-punishment. Dreams containing a symptom also contain the pathogenic situation, sometimes in symbolic disguise.—*L. Selling* (Recorder's Court, Detroit).

977. **Landmark, J.** Der Freudsche Triebbegriff und die erogenen Zonen. (Freud's concept of instinct and the erogenous zones.) *Imago, Lpz.*, 1935, 21, 345-351.—Freud's claim that erogenous zones are the source of instinct involves complicated and speculative explanations. This hypothesis requires two modes of excitation: sensory stimulation and an assumed chemical process. But no such chemical process is needed as a direct excitant. Hormones known to exist may rather be said to maintain a "sexual tonus"; their function is simply to serve as a necessary condition for all specific responses. Stimulation through the erogenous zones may be regarded as ordinary reception, whether conscious or not. The hormones are the source of instinct; stimulation at appropriate points throws it into play and leads it to qualify the response.—*H. D. Spoerl* (Northeastern).

978. **McComas, H. C.** Ghosts I have talked with. Baltimore: Williams & Wilkins, 1935. Pp. 192. \$2.00.—The author tells of some of his experiences with mediums, particularly Cartheuser and Margery. He also describes his own "seances," where psychic phenomena were produced by natural means. There are in addition comments on psychic phenomena in general, including automatic writing.—*W. S. Hunter* (Clark).

979. **Mishchenko, M. N.** Pro zmini u vishchii nervov i diyalnosti v umovakh eksperimentalnogo ta prirodnogo snu v lyudini. (The changes of higher nervous activity in man under conditions of normal and experimental sleep.) *Méd. exp., Kharkov*, 1935, No. 4, 59-72.—A study of the transitory states between waking and sleeping, as well as an analysis of the conditions of formation and restoration of conditioned reflexes during normal and experimental sleep, discloses different stages between vigilance and sleep which are marked by their lability, short duration and transitory character. In the so-called cataleptic stage associations may be formed or restored readily; in the more profound narcotic stage there is greater difficulty; and this difficulty is still greater in normal sleep. The author discusses the symptoms characterizing each stage; the physiological mechanism (varying degrees of cortical and subcortical inhibition); and the relation of this mechanism to dreams and certain pathological states of the nervous system, e.g., catatonic stupor.—*F. S. Keller* (Colgate).

980. **Mishchenko, M. N.** Pro zmini v rukhovii sferi v eksperimentalnomu ta prirodnomu sni v lyudini. (Changes in the motor sphere during normal and experimental sleep in man.) *Méd. exp., Kharkov*, 1935, No. 5, 77-88.—In the first stage of sleep cataleptic phenomena develop in a regular order. With the onset of the second, narcotic stage these phenomena disappear, also in a certain sequence. The awakening passes through the cataleptic state again. These changes are considered to follow the progress of cortical and subcortical inhibitory processes in the brain. Speech alterations were observed in all subjects in the cataleptic stage and persisted for a brief period after waking. The relation of these alterations to mutism and aphasia is discussed; and mention is also made of the appearance and significance of negativistic and automatic reactions in some of the subjects.—*F. S. Keller* (Colgate).

981. **Pfandl, L.** Der Narzissbegriff. Versuch einer neuen Deutung. (The Narcissus theme. An attempt at a novel explanation.) *Imago, Lpz.*, 1935, 21, 279-310.—The Narcissus legend probably arose as a warning against catching a glimpse of one's "shadow soul." Elaborated as a myth in order to give recognition to homosexuality, its accrued import was later suppressed. Freud provided the means of interpreting the significance of the myth and its role in the psyche. Knowledge of its significance as so interpreted should not permit alternative explanations. In studying modern poetic versions of the myth, the poet's interest in choosing it for treatment may be suspect, although in some cases this interest is merely superficial.—*H. D. Spoerl* (Northeastern).

982. **Simon, A. K., & Eddy, N. B.** Studies of morphine, codeine, and their derivatives. V. The use of maze-trained rats to study the effect on the central nervous system of morphine and related substances. *Amer. J. Psychol.*, 1935, 47, 597-613.—White and hooded rats were trained to run an elevated maze, after which they were treated by injecting intraperitoneally morphine hydrochloride. After the morphine injection it was found that the initial delay (time after being placed on the maze before the animal started running) was significantly lengthened. Errors are not significantly increased. Little or no tolerance for the drug developed.—*D. E. Johannsen* (Skidmore).

983. **Stekel, W.** Fortschritte und Technik der Traumdeutung. (Progress and technique of the interpretation of dreams.) Vienna, Leipzig, Bern: Weidman, 1935. Pp. 450. RM. 24.—In this volume the following problems are discussed: (1) the parathia in the dream; (2) individual dream symbols; (3) progress in the interpretation of dreams; (4) analysis of a dispareunia; (5) the first dreams in the analysis; (6) representation of the parathic symptoms in the dream; (7) dreams of a homosexual; (8) dream and automobile; (9) dream and intuition; (10) contributions to the interpretations of dreams; (11) day-dreams; (12) technique of the interpretation of dreams.—*W. Stekel* (Vienna).

984. White, M. M. Evidence from hypnosis of inhibition as a factor in recall. *Psychol. Bull.*, 1935, 32, 689-690.—Abstract.—J. F. Dashiell (North Carolina).

985. Wilson, D. P. Psychological factors of drug addiction: a two-year study of 1500 narcotic offenders. *Psychol. Bull.*, 1935, 32, 548-549.—Abstract.—J. F. Dashiell (North Carolina).

986. Wittels, F. Masculine and feminine in the three psychic systems. *Psychoanal. Rev.*, 1935, 22, 409-423.—Masculine and feminine are direct and immediate experiences (*Erlebnisse*). Sex is less important to the ego, unless there is love present, than self-preservation, so that sexual differentiation is a comparatively minor factor in the ego. On the basis of super-ego and ego-ideal, time and place determine masculinity or femininity. Correct thinking is neither sexual nor bisexual, but bipolar. Sex may be associated with activity or passivity, construction or destruction, enduring and conflicting, motion or repose.—L. Selling (Recorder's Court, Detroit).

[See also abstracts 753, 788, 885, 1060, 1114, 1262.]

NERVOUS AND MENTAL DISORDERS

987. Adler, A. The structure of neuroses. *Int. J. indiv. Psychol.*, 1935, 1, 3-12.—The main topic is introduced by a discussion of fundamental views. All drives are to be teleologically interpreted, hence "sex drives" cannot be recognized in psychological interpretations. The phenomena of social life are interpreted, in the terms of Vaithinger, "as if" they presented struggles to overcome all imperfections. Neuroses are explained as based on a situation involving a feeling of inferiority and a striving after superiority. Constitutional inferiority does not afford a causative explanation apart from the subject's reaction to it. Thus all neurotic symptoms are safeguards set by persons who do not feel adequately equipped to meet the problems of life, or who have only a passive appreciation of social feeling and interest.—O. N. de Weerd (Beloit).

988. Bartlett, M. R. Sensory acuity in psychopathic individuals. *Psychol. Bull.*, 1935, 32, 574-575.—Abstract.—J. F. Dashiell (North Carolina).

989. Brander, T. Om kongenital ordblindhet och liknande rubbningar under skolåldern. (Concerning word-blindness and similar disturbances during school age.) *Finska LäkSällsk. Handl.*, 1935, 77, 601-618.—Discussion of nomenclature, symptomatology, frequency, prognosis, etiology, and therapy of word-blindness, with 12 cases observed by the writer and treated in detail.—M. L. Reymert (Mooseheart Laboratory for Child Research).

990. Brundin, O. En förebildlig sinnessjukvård. De kommunala vårdhemmen i Södermanland ett lyckat komplement till den statliga vården. (Model care of mentally diseased. The city home in Södermanland, a successful addition to state care.) *Soc.-med. Tidskr.*, 1935, 12, 184-187.—In addition to state institutions for mentally diseased in Sweden, certain city-operated homes for lighter forms of insanity

have been instituted. The one in Södermanland is described as a model for such a small city-home.—M. L. Reymert (Mooseheart Laboratory for Child Research).

991. Courbon, P., & Leconte, M. Efficacité de l'intimidation sur un cas de délire de jalousie. (Efficacy of intimidation on a case of delusion of jealousy.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 791-795.—M. B. Mitchell (New Hampshire State Hospital).

992. Doll, E. A. Annual report, Department of Research, Training School, Vineland, N. J. *Train. Sch. Bull.*, 1935, 32, 114-123.—The research program was conducted in three major directions: (1) the development of a scale for the measurement of social maturity, (2) the organization of a group of studies in the field of physiological psychology, and (3) the continuing evaluation of clinical case studies and case work. (1) Extension work has been done toward completing a preliminary standardization on 600 normal subjects from birth to 30 years of age. A differential standardization also was made on 300 mentally subnormal subjects at the Training School. (2) Exploratory investigations were carried out on the electroencephalograms of mentally normal subjects and mentally deficient subjects of different types. The apparatus was constructed in the workshop. Another problem was that of developing methods for measuring characteristics of motor functions in quantitative terms. Clinical research was also continued and included a study of the variations in general intelligence among 122 adult feeble-minded subjects. The case-work load was 795. A bibliography of publications by the staff is appended.—E. M. Achilles (Columbia).

993. Döllken, —. Amusie und Stirnwindung. (Amusia and frontal convolution.) *Z. ges. Neurol. Psychiat.*, 1935, 153, 573-589.—Study of a number of cases shows that the underlying dispositions for speech and music cannot be considered as one. Both in normal and injured subjects, a distinction must be made between two dispositional unities—one of an effector nature for all sorts of motor expression in music, and the other of a gnostic variety for the sensory reception of sounds. To each of these there corresponds an anatomical unit in a circumscribed part of the cerebral cortex. These two, which are neighboring, are localized most frequently in the second right frontal convolution, the gnostic field lying in the middle part and the effector portion toward the bottom of the convolution. Injury to the sensory field causes deafness to timbre, that of the motor field an inability to produce or reproduce motives or melodies. If both regions are injured, the result is an agnostic-effector amusia.—C. W. Fox (Rochester).

994. Dubitscher, F. Die Bewahrung Schwach-sinniger im täglichen Leben. (Adjustment of feeble-minded in daily life.) *Erbarzt*, 1935, 2, 57-60.—The German law provides for sterilization of mental defectives and states that the defect shall be determined on the basis of character, success in school, and success in a vocation. The feeble-minded in a

rather low-grade vocation may be entirely successful and consequently not diagnosed on the basis suggested. It would be better to use mental tests to determine the defects.—*H. E. Burr* (Ohio State).

995. **Dunlap, K.** Causal types in mental disorders. *Psychol. Bull.*, 1935, **32**, 675.—Abstract.—*J. F. Dashiell* (North Carolina).

996. **Dupouy, R.** Les aliénés en liberté. (The insane at large.) *Ann. méd.-psychol.*, 1935, **93**, Part 2, 12-33.—This article is concerned primarily with psychotics who appear lucid to the casual observer, yet who really are potentially dangerous. Among these are the paranoiacs, the hypomanics, the perverse, and the chronic alcoholics. There are two types of the latter; one type is never seen drunk away from home, but is very abusive at home; the other becomes delirious at night, but appears normal during the day. All of these people are unconscious of any mental disorder in themselves and resent any attempt at treatment or hospitalization. The Henri-Rousselle Hospital maintains a home visiting service for examining people who are potentially dangerous and arranging for their commitment. This service is often a dangerous one, especially when two or more members of the household are psychotic. The physicians on this service should be given police protection and indemnity for injuries. Hospitalization should follow immediately after examination to prevent the patients committing homicide or suicide. Physicians should be required to report dangerous mental diseases in the community the same as contagious physical diseases.—*M. B. Mitchell* (New Hampshire State Hospital).

997. **Durling, D.** Range and distribution of mental abilities in a group of high-grade mental defectives. *J. appl. Psychol.*, 1935, **19**, 474-477.—This study is based on 38 mental defectives above 16 years with IQ's between 50 and 70. An analysis of 34 pencil and paper and performance tests covering various abilities reveals that on the average the range in ability is 80% as great as the individual differences. This finding is in agreement with that of Hull for normal subjects.—*R. S. Schultz* (Psychological Corporation).

998. **Emch, M.** A reorientation for state-hospital psychiatry. *Ment. Hyg., N. Y.*, 1935, **19**, 586-601.—In an effort to decrease the number of chronic cases and give more individualized effort in the treatment of acute problems, a new program of therapy was introduced at the Worcester State Hospital in Massachusetts. Greater stress was placed on therapy and social readjustment of newly admitted patients. As the patients improved, they left the hospital to enter situations that were considered desirable from the point of view of therapy. Hospital supervision through regular interviews with the physician or through social service visits to the home was continued. The aid of outside agencies was sought when necessary. This program of therapy was tested by comparing results of the year's admissions with those of the chronic group previously studied. 69% of the year's admissions were successfully placed as

compared with 45% of the chronic group. This study indicates that the state hospital must maintain for its ultimate goal the preparation of the patient for his return to the community.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

999. **Ey, H.** La discussion de 1855 à la Société Médico-Psychologique sur l'hallucination et l'état actuel du problème de l'activité hallucinatoire. (The discussion in 1855 at the Société Médico-Psychologique on hallucinations and the present state of the problem of hallucinatory activity.) *Ann. méd.-psychol.*, 1935, **93**, Part 1, 584-613.—This is a history of the theories concerning hallucinations from 1855 to the present. In 1855 the central problem concerning hallucinations was whether they are of organic origin. Those who said they were advocated a theory of mental automatism. Now the organic etiology is accepted and the question resolves itself into whether the hallucinations are a form of illusion, an error in the placement of psycho-sensory automatism in the scale of reality, or a form of sensation. The actual form of the hallucination depends on the personality of the individual as well as on the organic lesion.—*M. B. Mitchell* (New Hampshire State Hospital).

1000. **Frandsen, A. N.** Mechanical ability of morons. *J. appl. Psychol.*, 1935, **19**, 371-378.—A group of 100 boys ranging in chronological age from 10.5 to 20 and in IQ from 50 to 75 at the Minnesota State School for feeble-minded were given sets I and II of the Minnesota mechanical assembly test. The average percentile on the mechanical assembly test for this group was 15.85, and 52% scored below the fifth percentile; however, the distribution overlaps the entire range of a normal population.—*R. S. Schultz* (Psychological Corporation).

1001. **Glover, E.** Das Problem der Zwangsneurose. (The problem of the compulsion neurosis.) *Int. Z. Psychoanal.*, 1935, **21**, 234-248.—See IX: 5145.—*H. J. Wegrocki* (Worcester State Hospital).

1002. **Harrington, M.** The biological method in psychiatric case work. *Amer. J. Orthopsychiat.*, 1935, **5**, 302-317.—According to the "bio-psychiatric" approach, 4 factors are operative in abnormal behavior: (1) defective heredity, (2) somatic disease, (3) wrong education, and (4) stimuli afforded by difficult or trying situations. This view is contrasted with the psychoanalytic approach and the Kraepelinian view, in which abnormal behavior is attributed entirely to defective heredity and somatic disease. A case history is employed to illustrate the bio-psychiatric approach and to show how theory determines clinical procedure and, therefore, clinical data.—*J. McV. Hunt* (Nebraska).

1003. **Hoff, H., & Schönbauer, L.** Neue Erfahrungen in der Diagnostik und Therapie der Gehirn- und Rückenmarksgeschwülste. (New findings in the diagnosis and therapy of brain and spinal tumors.) *Fortschr. Neurol. Psychiat.*, 1935, **7**, 433-446.—The first portion of the article deals with arteriography of the vessels of the brain. The method, introduced by Egas Moniz in 1927, consists in injecting into the

carotid one of two contrasting media, abrodil or sodium iodide. Epileptic and Jacksonian attacks appear, followed by paralysis and sometimes death. In the second section of the report the histology of brain tumors and their relation to diagnosis is dealt with. The author discusses the work of Erdheim and Bernstein on types of tumors. The last part is devoted to brain "deserts," sections which accompany tumors and often show the same symptoms as the tumor itself. He quotes the work of Zaburek, who studied these barren sections in eighteen cases, as well as the investigations of Bailey, Cushing, and Fünfgeld, who have studied the structure of these sections in relation to the structure of the tumors and found that tumors from immature cells produced greater brain "deserts." Bibliography.—D. S. Oberlin (Newark, Del.)

1004. Jastrow, J. *Sanity first*. New York: Greenberg, 1935. Pp. viii + 312. \$2.50.—A series of radio talks on mental hygiene recently given by the author are assembled in a manner adapted to popular interests and habits of mind. The key to living sensibly is: "Cultivation and control of the powers you bring to life," particularly of the emotions. This theme is developed in discussions of heredity, habits, general intelligence, personality traits, and abnormalities. The emphasis throughout is upon social relations. There is included an analysis of current pseudo-psychological conceptions such as numerology, character reading in handwriting, and memory cults; and suggestions for the avoidance of fatigue, hysteria, "the jitters," and complexes. Much harm has been done by exaggerating the influence of the inferiority complex, especially; and psychoanalysis has more on the debit than on the credit side. Happiness and sanity both result from a fair adjustment of temperament to circumstance.—M. P. Montgomery (Faribault, Minn.)

1005. Kelly, G. A. *Differential diagnosis in the psychological clinic*. *Psychol. Bull.*, 1935, 32, 684-685.—Abstract.—J. F. Dashiell (North Carolina).

1006. Kornmüller, A. *Der Mechanismus des epileptischen Anfalles auf Grund bioelektrischer Untersuchungen am Zentralnervensystem*. (The mechanism of epileptic attacks on the basis of bioelectric experiments on the central nervous system.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 414-432.—The author here reports the concluding part of a series of investigations. He discusses: the relation between contraction current pictures and motor contraction as well as other partial symptoms of the epileptic attack; the mechanism of the broadening of epileptic excitation in the central nervous system; arguments against the vascular theory of epileptic attacks; research on the analysis of currents discharged in the spasms; types and symptoms of epilepsy. Some of his conclusions are: (1) that the wane of epileptic excitation in a field depends on the structure of the centers and on the strength of the stimulation; the quality of the stimulus is therefore not very essential; (2) that the first and only excited center can by nervous, not vascular, means, after a latency period,

bring other centers into abnormal activity; and (3) that the explosive type of epileptic excitation can pass over synapses which could not be traversed with ordinary normal excitation. Bibliography.—D. S. Oberlin (Newark, Del.)

1007. Lafora, G. R. *Etude psychologique d'une débile mentale calculatrice du calendrier*. (Psychological study of a mentally defective calendar calculator.) *Encéphale*, 1935, 30, 309-337.—The author describes the case of a mentally defective girl, CA 15 years, MA 10 years, who can solve most questions concerning the calendar in from 2 to 5 seconds. She has a poor aptitude for calculation in general, although the calendar problems which she solves in some 5 seconds require from 15 to 25 minutes for a professional calculator. A study of this and other cases of imbecile calendar calculators leads to the conclusion that their chief reliance is upon coincidences and upon a highly specialized memory. Their skill consists not in a true calculation but upon the mechanical memory of various dates in each year by means of which they deduce the first date of each month.—M. H. Piéron (Sorbonne).

1008. Landis, C. *The depression and mental disease*. *Sci. Mon.*, N. Y., 1935, 41, 550-553.—During the past 22 years the incidence of all kinds of mental disease has remained remarkably constant, with the sole exception of cerebro-arteriosclerosis, which has increased by almost 700%; but this may be attributed to the increased proportion of the total population old enough to develop this disease. Hence the depression is not a cause of mental disorder, however much it has been of mental stress.—J. F. Dashiell (North Carolina).

1009. Lechler, A. *Seelische Erkrankungen und ihre Heilung*. (Mental diseases and their cure.) Stuttgart: Steinkopf, 1935. Pp. 92. RM. 1.20.—R. R. Willoughby (Clark).

1010. Mahan, H. C. *Mental deterioration associated with the prolonged use of alcohol*. *Psychol. Bull.*, 1935, 32, 735.—Abstract.—J. F. Dashiell (North Carolina).

1011. Maloy, B. S. *Nervous and mental diseases*. Indianapolis: Bobbs-Merrill, 1935. Pp. 551. \$7.50.—This book represents "a simplified and comprehensive presentation of nervous diseases and insanity." It is written primarily for the medico-legal expert and the lawyer and discusses the neurological and mental disorders briefly. A 94-page index is given.—M. H. Erickson (Eloise Hospital).

1012. Malzberg, B. *Mental disease in New York state according to nativity and parentage*. *Ment. Hyg.*, N. Y., 1935, 19, 635-660.—Although the rate of first admissions of foreign born is in excess of the native born, this study reveals that the point of view held by many that foreign born have twice the amount of mental disease prevalent among native born is an exaggeration. The lowest rate is found among natives of native stock. The rate of the foreign born when corrected for age and sex differences exceeds that of the natives of native stock in the ratio of 1.4 to 1.

Natives of foreign parentage showed rates between those of natives of native parentage and foreign born. Among natives of mixed parentage the highest rate was found. The relative differences in the incidence of mental disease in the various nativity groups can be determined by a study of environmental and economic factors. It is probable that rates of admission are due to social and other environmental factors.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.)

1013. **Meinertz, J.** *Analyse und Synthese als existenzielle Möglichkeiten einer wissenschaftlichen Psychotherapie.* (Analysis and synthesis as existential possibilities of a scientific psychotherapy.) *Z. ges. Neurol. Psychiat.*, 1935, 153, 122-159.—It is necessary to examine anew the limits of the scientific point of view as regards mental structure. Neither the mechanistic (positivistic) nor rationalistic (idealistic) approach is satisfactory. Meinertz' own solution makes use of concepts recently formulated by Heidegger, Klages, etc. Time (*Zeit*), in Heidegger's philosophical sense, provides for psychotherapy a "vital symbol" which, although "unrational," is not irreconcilable with strict scientific thought. The writer discusses certain implications for psychotherapy of Jaspers' recently published work on philosophy.—*C. W. Fox* (Rochester).

1014. **Meissner, J.** *Zagadnienia psychoz wieku przedstarczego i starczego.* (Problems concerning the psychoses of presenility and senility.) *Roczn. Psychiat.*, 1935, 24, 71-74.—In making diagnoses, too much emphasis is put upon the age of the sick person and too little attention is paid to prior psychical disturbances, family conditions, and other such data. The existence of the so-called psychosis of the climacteric age (psychosis climacterica) and of a presenile psychosis (psychosis praesenilis) is doubtful. The existence of dementia senilis and of a psychosis arteriosclerotica is more probable.—*T. Nowakowski* (Poznań).

1015. **Møller, N. B.** *Undersøgelser over fingeraftrykket som konstitutionelt kendetegn ved sindssygdomme.* (Investigations of fingerprints as constitutional characteristics in mental diseases.) *Hospitaltidende*, 1935, 78, 1085-1096; 1097-1111.—Following a brief historical account of work in this field, the writer gives a detailed exposition of his own investigation in Denmark of 1062 women mental patients (583 schizophrenia, 138 depressive or manic-depressive, and 341 "other psychoses"), and 741 men patients (450 schizophrenia, 46 depressive or manic-depressive, and 45 "other psychoses"). Fingerprints of 14,857 women and 86,654 men from the archives of the police were used as control material. The differential results are illustrated by tables and graphs. Comparisons are made with material from Berlin, Germany, as regards normal and schizophrenic individuals. The type of pattern of the fingerprints was the main object of investigation, and the main tentative conclusion seems to be "that without doubt there is a relation between fingerprints and the tendency to psychoses" and that with more detailed studies of particulars in the patterns, it might prove

possible in the future to utilize fingerprints in prognosis and diagnosis of definite mental diseases. Extensive bibliography.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

1016. **Morgan, J. J. B.** *What normals can learn from paranoia.* *Ment. Illth Observ.*, 1935, 4, No. 1, 3.—Paranoia is a disease in which the patient has delusions of persecution. These delusions are merely an exaggeration of suspicions which come with the patient's attempt to blame others for any difficulty or failure, instead of frankly facing the situation himself. It is possible to overcome this habit, as is evidenced in the article by the story of the young man who wanted promotion but whose ambitions seemed to have been frustrated by a higher official.—*R. H. Brown* (Yankton).

1017. **Moss, F. A.** *Use of glandular preparations in certain mental disorders.* *Psychol. Bull.*, 1935, 32, 736-737.—Abstract.—*J. F. Dashiell* (North Carolina).

1018. **Müller, M.** *Therapie der Geisteskrankheiten IV. Die schizophrenen Erkrankungen. 1. Prognose und Prophylaxe. 2. Therapie.* (Therapy of mental diseases. IV. The schizophrenic diseases. 1. Prognosis and prophylaxis. 2. Therapy.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 447-474.—The author first gives a brief sketch of his own conception of the problems of schizophrenia. He divides the factors into two groups, the psychogenetic and the pathoplastic. In the former class he includes inherited structure; affective flight from reality; a state similar to regression, the symptoms of which are projection, inability to separate self from the outside world, hallucinations. The pathoplastic factors include bizarre mannerisms, stereotypy. These are but a few of the problems, but sufficient to show what direction the development of therapy is to take. The largest proportion of mild cases of schizophrenia can be treated by therapeutic means. By careful study of structural types, milieus and occupations preventive measures in the case of schizophrenia may be developed. The second part of the article is devoted to a discussion of therapy. The author does not, however, feel that there is a universal panacea for schizophrenia, any more than he believes that schizophrenia is insusceptible to therapy, as was believed formerly. He favors the activity therapy of Simon.—*D. S. Oberlin* (Newark, Del.)

1019. **Nelken, J.** *Lagodna schizofrenja.* (Mild schizophrenia.) *Roczn. Psychiat.*, 1935, 24, 86-102.—Mild schizophrenia (schizophrenia mitis or latens, schizothymia) is most clearly conceived by the psychiatric school of Rosenstein in Moscow, which treats it as an independent, very mild form of psychosis. Those having it seldom need to be interned, although every step of theirs in life may provoke a pathological reaction.—*T. Nowakowski* (Poznań).

1020. **Pfersdorff, C.** *Les catégories du langage aphasique et la dissociation schizophrénique.* (The categories of aphasic language and schizophrenic dissociation.) *Ann. méd.-psychol.*, 1935, 93, Part 2, 1-11.—The patients with organic lesions may speak

a "word salad" which makes no sense. On the other hand, the schizophrenics usually speak in phrases which are grammatically correct. When their phrases do not make sense, it is usually because they are speaking in symbols which they attribute to external influences. In both motor aphasics and certain dementia praecox cases there is a spelling difficulty in which the patients give the vowels correctly but not the consonants. In three organic cases with tumors involving the caudate nucleus, correct syntax and perseverations were found similar to those in schizophrenia. Bibliography.—*M. B. Mitchell* (New Hampshire State Hospital).

1021. Ray, W. S. A nine-year-old microcephalic without mental deficiency. *Psychol. Bull.*, 1935, 32, 561.—Abstract.—*J. F. Dashiell* (North Carolina).

1022. Reiman, M. G. The prognostic value of mental symptoms in the psychoses. *Stud. Psychol. Psychiat. Cathol. Univ. Amer.*, 1935, 3, No. 6. Pp. 40.—Recovery or non-recovery of discharged psychotics was correlated with presence or absence of 40 symptoms previously observed. The tetrachoric technique was used, following the procedure of T. V. Moore. In this way the relation of recovery to Moore's five syndromes which have a super-general factor in common was determined. Recovery correlated positively with manic-depressive insanity and negatively with dementia praecox. No psychotic manifestation is necessarily related to deterioration; euphoria is a favorable symptom, while shut-in reactions are most unfavorable.—*H. D. Spoerl* (Northeastern).

1023. Robie, T. R. The phobia of impregnation and its relation to the psychoneuroses. *Amer. J. Orthopsychiat.*, 1935, 5, 318-324.—A series of case histories are presented which demonstrate that psychoneuroses may result from prolonged fear of impregnation. This phobia is believed to be a prevalent cause of neuroticism which might be eliminated were the medical profession to assume its social responsibility and provide adequate contraceptive techniques to all newly married couples.—*J. McV. Hunt* (Nebraska).

1024. Schilder, P. Psychopathologie der Zeit. (Psychopathology of time.) *Imago, Lps.*, 1935, 21, 261-278.—Various factors are involved in disturbance of the subject's sense of time, both on a perceptual level and otherwise. They appear to include organic disturbance of the vestibular apparatus, tendencies toward aggression, and personal significance of time as conceived in some particular relationship. Understanding of the symbolic character of temporal relationships is necessary for full comprehension of basic desires and strivings. It would also illuminate our knowledge of the thought processes.—*H. D. Spoerl* (Northeastern).

1025. Schultz, J. H. Seelische Schulung, Körperfunktion und Unbewusstes. (Psychic training, bodily function and the unconscious.) *Zbl. Psychotherap.*, 1935, 8, 304-318.—Psychic training is a planned procedure utilizing the practice or repetition mechanism to change function or attitude at levels ranging

from the vegetative life to the personality. For success it must usually be combined with other forms of psychotherapy. Schultz discusses its relationship to the processes of learning and forgetting. The compulsion to complete is the decisive criterion as to whether a given procedure constitutes psychic training. This close relationship to biopsychological phenomena explains its peculiarly intense action on bodily functions. Mental discipline is a part of the various psychotherapeutic methods and is the nucleus of autogenous training. Its highest and most important expression is military service for youth. The unconscious absorbs the formative strength of psychic training plastically and productively, and automatizes it as a smoothly-running, guiding mechanism. Conscious discipline can also control chaotic reactions of the unconscious. Such training is gradually incorporated into the unconscious and transforms it. The behavior of the unconscious is the most valuable indication and proof of the progress of training.—*M. E. Morse* (Baltimore).

1026. Sereisky, M. J., Salkind, E. M., & Maslov, E. [Progress in psychiatry in Northern Caucasus, 1920-1933.] *Usp. nauchn. Psikiat.*, 1934.—A review of psychiatric work in Northern Caucasus is given. Research facilities, laboratory work and trends in therapy at several psychiatric clinics, hospitals and university centers are described. Attention is drawn to numerous scientific publications, such as "Biology of Encephalitis" edited by A. I. Ushchenko, a monograph by Zalkind entitled "Dynamics of Leucocytosis in some Nervous Diseases and Psychiatric Disorders," and a book "On Biochemistry of Emotions" by Chalisov and Molukalo. The Krasnodar Medical School established a neuropsychiatric clinic which became especially interested in minor psychiatric disorders and so called borderline conditions. At this clinic a study of the personality of the criminal was conducted by Brailovsky; for this work psychiatrists, jurists and criminologists united. Some of the results were published in five volumes entitled "The Study of Criminology in Northern Caucasus." Under Karganov a study in juvenile neuropsychiatry was conducted for which schools, children's asylums and pioneer social organizations served as basis. The Institute for Medical Jurisprudence assisted in organizing neuropsychiatric expert testimony. Attention has been paid to new developments in social neuropsychiatry, such as research in mental hygiene. The Rostov Institute for Mental Hygiene conducted expeditional works in the autonomous national provinces with special interest in comparative neuropsychiatry, because of the multitude of nationalities populating the Northern Caucasus with their local peculiarities of social, cultural and historical developments; organized work was also done in industrial psychiatry in local factories. In 1924 A. I. Ushchenko published "Lectures in Psychiatry" in two volumes, which consist of findings in psychology and psychopathology; all his lectures were based on material of empirical psychology with attempt to replace basic psychological terms by reflexological ones. Rostov Psychiatric Hospital and Clinic started in 1931 under

M. J. Sereisky a special group for study of personality, and in a series of reports idealistic and mechanistic studies of German and Russian localists (Freud, Jung, Adler, Lasursky and others) have been scrutinized. This study has been cooperating with the historical division, with analysis of those trends which occurred during different epochs under the influence of social and economic factors. All this has found partial reflection in a new edition of "Text-Book of Psychiatry" by Gurevich-Sereisky.—*L. Reznikoff* (Hudson County Hospital, N. J.)

1027. Sullivan, E. B., & Gahagan, L. On intelligence of epileptic children. *Genet. Psychol. Monogr.*, 1935, 17, 309-376.—The study has to do with "the intelligence and personality and conduct of 103 epileptic children" ranging in age from 2 to 14 years. Stanford Revision, Kuhlmann-Binet, and Gesell Normative Schedules were used. The median intelligence quotient was found to be 92.4. "The analysis of tests failed by the epileptic group as a whole does not show qualitative differences in responses from those given by a non-selected group" (contrary to findings of some previous studies cited in the authors' review of the literature). Variations in IQ (first and second test on 44 cases) show some higher and some lower IQ's. 44 cases were classified as cases with personality and conduct disorders. "The problem group as a whole is a fair sampling of the group as a whole except for the greater proportion of the feeble-minded." These disorders of conduct and personality "are not characteristic of all children with epilepsy." "It is not possible to distinguish in the epileptic group of normal intelligence the cases that will become problems and present the hyperkinetic behavior and emotional upset that seem to characterize the epileptic problem cases." The authors "found no significant relation to age, sex, causation, or severity." 38 references are appended.—*F. M. Teagarden* (Pittsburgh).

1028. Vurpas, C. Les obsessions, les impulsions et les perversions sexuelles dans l'oeuvre de Magnan. (The obsessions, impulsions, and sexual perversions in the work of Magnan.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 748-759.—Magnan believed that obsessions, impulsions, and sexual perversions have a common basis in degeneration. They are not a single isolated phenomenon in an otherwise lucid and normal individual. He found that the symptoms often changed, and in analyzing the past history he always found psychopathic traits in other members of the family or in the individual since childhood. He found this true in all types of so-called monomania, such as dipsomania, sitomania, and onomatomania, although the latter came nearer to being an isolated symptom than the others. Exhibitionism is a particular form of impulsion. The degeneration is explained anatomically as an inflammation of the cerebrospinal axis dating back to the fetal period or early childhood. Physiologically this is described as a lack of synergy of the intellectual functions or a disequilibrium which affects all the intellectual functions. It excites certain centers, causing obsessions,

and fails to inhibit certain activities, causing impulsions and sexual perversions.—*M. B. Mitchell* (New Hampshire State Hospital).

1029. Wallin, J. E. W. *Personality maladjustments and mental hygiene*. New York: McGraw-Hill, 1935. Pp. xii + 511. \$3.00.—This is a textbook intended for psychologists, educators, counselors, and mental hygiene workers. Part I presents a survey of the concept of mental health and of the program of mental hygiene. Part II deals with the symptoms of personality maladjustment, as evidenced by inadequate or unwholesome modes of response to difficulties, and includes various preventive and remedial suggestions. The mechanisms of adjustment formally discussed include: (1) trial and error; (2) dodging responsibility by evasion; (3) minimizing difficulties; (4) refusal to acknowledge defeat or failure; (5) self-justification through shifting the blame; (6) self-justification through comparison with inferiors; (7) procrastination; (8) rationalization; (9) regression; (10) daydreaming; (11) compensation; (12) inhibition; (13) repression; (14) substitution; and (15) sublimation. Ample illustrative case material is supplied. An appendix is devoted to suggestions for overcoming stage fright and other forms of fear. The book contains an extensive bibliography and an index.—*S. Rosenzweig* (Worcester State Hospital).

1030. Wulfften-Palthe, P. M. van. Koro. Eine merkwürdige Angsthysterie. (Koro. An unusual type of anxiety hysteria.) *Int. Z. Psychoanal.*, 1935, 21, 248-257.—Because it has been observed that in corpses the penis seems to shrink and retire into the body, natives of parts of southern China and of the Dutch Indies have developed the superstition that the person will die if the penis begins to manifest this phenomenon. To counteract this the penis is either held in the hand or inserted into an apparatus to arrest the shrinking. The author, on the basis of his contacts with several cases, analyzes the reaction as a neurotic symptom facilitated and sanctioned by primitive traditions but grounded in the castration fear.—*H. J. Wegrocki* (Worcester State Hospital). [See also abstracts 716, 717, 812, 832, 869, 966, 968, 975, 1045, 1067, 1071, 1104, 1157, 1168.]

PERSONALITY AND CHARACTER

1031. Baganz-Lehmann, M. Kleid und Persönlichkeit. (Dress and personality.) *Industr. Psychotech.*, 1935, 12, 238-248.—Between dress and personality there is an inner psychological connection. From observation of clothes one is able to infer peculiarities of the intellectual make-up of the wearer. The inference is analogous to that sometimes drawn between handwriting and character.—*R. M. Bellows* (U. S. E. S. Div. Standards and Research).

1032. Baumgartner, H. W. Measuring negro self-respect. *J. Negro Educ.*, 1935, 4, 490-499.—In the construction of an attitude scale attempting to measure the racial self-respect of the negro, Likert's four criteria for the formulation of such a scale were used. The scale was believed to be of help in "the

establishment of maximal harmonious relationship among the several races comprising the U. S. population," inasmuch as it might lead to a better understanding of the attitudes of the particular group measured. The preliminary scale consisted of 60 statements expressing different attitudes toward negroes. Two groups were studied on the original questionnaire, one a miscellaneous northern group, the other a southern college group. The maximum score was 300. In the college group were 32 males and 68 females; the median score was 218 and no sex differences were found. The reliability coefficient was only .585. In the northern group were 60 males and 4 females. The male median was 214 and the female 212. The coefficient of reliability was .77. When corrected, the reliability coefficient for northern and southern groups was .754. A revised scale consisting of 30 items has been constructed, but has not yet been used to test additional groups. It is proposed to carry the investigation further by rescore the questions in terms of standard score values.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.)

1033. **Bühler, C.** The curve of life as studied in biographies. *J. appl. Psychol.*, 1935, 19, 405-409.—The problem was to determine whether a regular curve in attitudes toward life and spiritual attainment can be established similar to biographical growth. Analysis of 300 biographies involving (1) external events (age of preparation for profession, advancement, marriage, friendship connections, etc.), (2) inner experience (desires, hopes, complaints, etc.), and (3) dates of work and accomplishments during life, reveals a regular sequence in events, experiences and attainments of life in spite of individual irregularities and a tendency to specification and definite results. Suggestions are made for further research and application of results in choice of career, favorable ages for workers, public welfare, insurance problems, marital guidance, and health.—*R. S. Schultz* (Psychological Corporation).

1034. **Burks, B. S.** Empirical approaches to personality Gestalten. *Psychol. Bull.*, 1935, 32, 560-561.—Abstract.—*J. F. Dashiell* (North Carolina).

1035. **Donges, L.** Untersuchungen über die elektrische Leitfähigkeit von Haut und Gewebe bei verschiedenen Persönlichkeitstypen. (Studies of the electrical conductivity of the skin and of the tissues in various personality types.) Dortmund-Hörde: Halbach, 1935.—The author found that the resistance of the skin is higher in winter than in summer, and higher after rest than after physical work. There are also differences between the values obtained in the morning and those obtained in the evening. The physiological polarization is greater in the disintegrated type than in the integrated one (Jaensch's type). In the S-type the greatest oscillation of skin resistance was found. In children the results were very irregular.—*L. Donges* (Dortmund).

1036. **Harris, D. & Twitchell, W. W.** Expressed willingness to take a chance. *Psychol. Bull.*, 1935, 32, 576.—Abstract.—*J. F. Dashiell* (North Carolina).

1037. **Kempf, E. J.** Physiology of attitude—emergence of ego-organization. *Med. Rec., N. Y.*, 1935, 142, 356-358.—(Twelfth installment.) The author continues his exposition of the physiology of attitude by a discussion of the organization of postural tonic and motor contractions of somatic and autonomic neural musculature into an autogenous or volitionally selective attitudinal mechanism. He criticizes, in this regard, the theoretical conclusions drawn from the experimental work of Walsh, Sherrington, Jacobson, and Pavlov. An 11-item bibliography is appended.—*M. H. Erickson* (Eloise Hospital).

1038. **Kempf, E. J.** Physiology of attitude—emergence of ego-organization. *Med. Rec., N. Y.*, 1935, 142, 403-406.—(Thirteenth installment.) The physiology of attitude is discussed further in the light of experimental work by Adrian, Hoagland, and Pavlov. The author then defines the law of attitude as follows: Attitude \times Situation = Behavior, and gives the following corollaries for behavioral sciences: (1) Knowledge of the attitude and the situation permits prediction of acquisitive, avertive, and destructive qualities of behavior. (2) Knowledge of situation behavior permits knowledge of attitude. (3) Knowledge of a past attitude and behavior gives knowledge of the situation. (4) From past experiences with attitude in situation and resultant behavior knowledge of the third component of the equation is possible. (5) To repeat similar behavior in a certain situation a similar attitude is needed. (6) Change of behavior without change of situation requires change of attitude. (7) If the attitude is fixed and behavior is pathological frequently more healthful behavior can be developed by changing the situation. (8) If a certain attitude is thoroughly conditioned to become established in certain situations similar behavior will always result.—*M. H. Erickson* (Eloise Hospital).

1039. **Kempf, E. J.** Physiology of attitude—emergence of ego-organization. *Med. Rec., N. Y.*, 1935, 142, 446-450.—(Fourteenth installment.) The author concludes his study with a discussion of the "socialization of attitude—origin of ego-organization and evolution toward autogenous control of attitude, sensation and movement, in more distant situations." There follows a summary of the entire article in which he concludes that personality and its attributes can be explained only through developing a comprehension of the adaptability functionings of the organism which become organized to form an autogenously counterbalancing attitude, thus making attitude a mechanistic unity. The basic principle is that an attitudinal organization of reflexes of the segments as a whole controls other reflexes antagonistic to it and autogenously reorganizes itself to become allied with persistently repetitive reflexes, thus causing changes of attitude to fit new experiences. The law of attitude is that the form or pattern of attitude which is in existence at any moment of stimulation determines what the reactions will be to the stimuli.—*M. H. Erickson* (Eloise Hospital).

1040. **Kretschmer, E.** Wurzelformen der Persönlichkeit. (The basic forms of personality.) *Umschau*,

1935, 39, 177.—The primary basis of personality consists of certain simple dispositions and tendencies to certain types of reaction. This primary basis of personality is different according to the physique of the person.—*P. Klimpel* (Leipzig).

1041. **Lentz, T. F.** The generality and specificity of conservatism. *Psychol. Bull.*, 1935, 32, 747-748.—Abstract.—*J. F. Dashiell* (North Carolina).

1042. **Lorge, I.** Prestige, suggestions and attitudes. *Psychol. Bull.*, 1935, 32, 750.—Abstract.—*J. F. Dashiell* (North Carolina).

1043. **Rink, W.** Charakterologische Bibliographie. (Characterological bibliography.) *Z. Menschenk.*, 1935, 10, 235.—*P. Klimpel* (Leipzig).

1044. **Rundquist, E. A.** The significance of form of statement for personality measurement. *Psychol. Bull.*, 1935, 32, 751.—Abstract.—*J. F. Dashiell* (North Carolina).

1045. **Schott, E. L.** Personality tests in clinical practice. *Psychol. Bull.*, 1935, 32, 733-734.—Abstract.—*J. F. Dashiell* (North Carolina).

1046. **Sherman, M.** Parents, teachers and children. *Ment. Hlth Observ.*, 1935, 4, No. 1, 1; 8.—General conclusions are stated concerning the formation of personality by environmental factors. Investigations show that the intellectual growth and emotional life of every person are greatly affected by his early experiences. Problem children are the products of unstable and non-stimulating environment. Cooperation on the part of teachers and parents would greatly facilitate the formation of an educational system in which the child could be assured of the development of emotional insight and of an understanding of personal and social relationships.—*R. H. Brown* (Yankton).

1047. **Stagner, R.** Fascist attitudes: their determining conditions. *Psychol. Bull.*, 1935, 32, 749-750.—Abstract.—*J. F. Dashiell* (North Carolina).

1048. **Stein-Lewinson, T.** Graphologie in Amerika. (Graphology in America.) *Schrift*, 1935, 1, 78.—*P. Klimpel* (Leipzig).

1049. **Stutsman, R.** Constancy in personality trends. *Psychol. Bull.*, 1935, 32, 701-702.—Abstract.—*J. F. Dashiell* (North Carolina).

1050. **Sward, K.** Patterns of Jewish temperament. *J. appl. Psychol.*, 1935, 19, 410-425.—An item analysis of the Bernreuter personality inventory based on responses of 114 Jewish families and 113 non-Jewish families in triads of father and mother plus son or daughter (college students) reveals four distinguishing patterns that characterize the Jewish group: (1) gregariousness or strong social dependence, (2) submissiveness, (3) drive and over-action, and (4) various anxiety states and symptoms of mood change. Statistical tables and questions found most discriminating are included in this report.—*R. S. Schultz* (Psychological Corporation).

1051. **Willoughby, R. R.** Emotionality as a function of age, sex and conjugal condition. *Psychol.*

Bull., 1935, 32, 728.—Abstract.—*J. F. Dashiell* (North Carolina).

[See also abstracts 751, 891, 963, 1029, 1076, 1078, 1080, 1092, 1126, 1138, 1176, 1193, 1246, 1255, 1266.]

SOCIAL FUNCTIONS OF THE INDIVIDUAL

1052. **Achilles, P. S., & Link, H. C.** Measuring changes in public opinion. *Psychol. Bull.*, 1935, 32, 725-726.—Abstract.—*J. F. Dashiell* (North Carolina).

1053. **Anderson, J. E., & Goodenough, F. L.** Age and sex differences in productivity of American psychologists. *Psychol. Bull.*, 1935, 32, 675-676.—Abstract.—*J. F. Dashiell* (North Carolina).

1054. [Anon.] Research projects and methods in educational sociology. *J. educ. Sociol.*, 1935, 9, 119-124.—(1) A brief summary of the scope and technique of a study of early marriage adjustment now under way at the Merrill-Palmer School, Detroit, under the direction of R. G. Foster; (2) a listing of the papers presented at the Fourteenth Annual Summer Institute of the Society for Social Research, held at the University of Chicago, June 14 and 15, 1935.—*F. D. McTeer* (Wayne University).

1055. **Arnold, T. W.** The symbols of government. New Haven: Yale Univ. Press, 1935. Pp. 284. \$2.50.—Law and economics are examined, not as formulations of principles, but as symbolic thinking and conduct which condition the behavior of men in groups.—*R. R. Willoughby* (Clark).

1056. **Baker, A. T.** A clinical study of inmates sentenced to Sing Sing Prison for murder—first degree. *Amer. J. Psychiat.*, 1935, 91, 783-790.—The findings (based on 50 cases) are that the individual is usually under 30 years of age, unskilled and unemployed at the time of the crime, with fair education and intelligence. His previous history and emotional state have no unusual aspects. Although he is not psychotic, in approximately 50% of the cases he presents some factor of psychiatric interest.—*R. Goldman* (Clark).

1057. **Bonger, W. A.** Problemen der demokratie. (Problems of democracy.) Groningen: Noordhoff, 1934. Pp. 169. Gld 2.50.—A sociological and psychological study of democracy in which the various forms of democracy from antiquity to the present day are traced. Problems of democratic governments are discussed, including parliamentary systems, elections, political appointments. The development of the democratic idea in the labor movement and in industry is described in detail. A chapter is devoted to the (passive and active) psychological and intellectual aspects of democracy and to the psychology of autocracy.—*H. Beaumont* (Kentucky).

1058. **Bracken, H. v., & Schäfers, F.** Ueber die Haltung von Strafgefangenen zu Literatur. (On the reading proclivities of those in penal servitude.) *Z. angew. Psychol.*, 1935, 49, 169-206.—Prisoners read an average of 44.3 books per capita per year, a higher average than for the general population. There is a

close connection between their choice of reading matter (in prison libraries) and the nature of the crime. Humor, adventure, and pictorial matter are generally preferred. Murderers display a preference for high-grade informative books and adventure stories; swindlers prefer light novels; thieves, practical culture; sexual offenders, sex books. A relationship to types of "criminal constitution" was also discovered.—H. D. Spoerl (Northeastern).

1059. Brentlinger, W. H. Emotional stability and other characteristics of 225 transients. *Psychol. Bull.*, 1935, 32, 682-683.—Abstract.—J. F. Dashiell (North Carolina).

1060. Bychowski, G. Przestępca w świetle psychoanalizy. (The criminal from the psychoanalytic point of view.) *Rocznik psychjat.*, 1935, 24, 30-52.—A crime is the consequence of a conscious intention or an outbreak of unconscious tendencies. The criminal offends the moral order, which consists in the repression of such tendencies by the rest of the people; and therefore he must suffer the penalty which the collective consciousness demands as compensation for the satisfaction he has permitted himself. Thus the penalty seldom serves any rational aims or produces any positive results.—T. Nowakowski (Poznan).

1061. Chikovani, M. Y. Tainyi narodnyi iazyk. (The secret speech of the people.) *Za marks. Iazyk.*, 1934, 63-72.—In various regions of Georgia the author found evidence of a secret speech used in social intercourse. It probably originated among the peasantry, and its peculiarity consists in the addition of a new syllable (*ga*, *ka*, etc.) to each syllable. This makes the words unintelligible to the uninitiated.—E. Kagarov (Leningrad).

1062. Cressey, P. F. The influence of moving pictures on students in India. *Amer. J. Sociol.*, 1935, 41, 341-350.—A questionnaire study of 233 Indian college students shows their chief interests in the movies to be recreational and educational. Foreign pictures have given them a better understanding of Europe and America, but have had only a superficial influence on their general attitudes and behavior. Women students are somewhat less influenced than men even when attending movies frequently. The type of pictures in which the students are interested and the extent of movie influence are directly related to the frequency with which they attend movies. Cultural differences and a sense of social distance tend to limit the general influence of foreign pictures.—(Courtesy *Amer. J. Sociol.*)

1063. Curti, M. W., Marshall, F. B., Steggerda, M., & Henderson, E. M. The Gesell schedules applied to one-, two-, and three-year-old negro children of Jamaica, B. W. I. *J. comp. Psychol.*, 1935, 20, 125-156.—The average performance of these negro children was inferior to that of the New Haven children on whom the tests were standardized. A number of factors are mentioned which show that this does not constitute reliable evidence of comparative inferiority. The validity of certain test items is questioned because the performance of Jamaica children

on these items was irregular and inconsistent. Inferiority of height and weight was evidenced. The children tested were ahead of the Gesell norms in age of creeping, standing and walking. These children were markedly inferior in a number of personal-social items, but superior in such activities as running errands. In certain items regarded as good tests of intelligence, e.g., understanding and use of language, the negro children were approximately as able as the New Haven whites. It is suggested that the Jamaica children would have done better on the test as a whole had it been devised to be fair to both groups. Bibliography.—N. L. Munn (Pittsburgh).

1064. Dobrowolska, H. Grafika książki a czytanie. (Relation between the graphic form of a book and ease in reading it.) Warsaw: Nasza Księgarnia, 1933. Pp. 112. 4 zloty.—The investigations of the author took two directions. (1) By the use of tests, composed of printed paragraphs with different graphic forms, she investigated the influence of the width of a column of print upon speed in reading. The results showed that the best width for a column in a Polish book is 80-90 mm. (as compared with 60 mm. for books printed in the English language, according to Huey). (2) By means of questionnaires, the author attempted to discover the reaction of readers to margins of different sizes, pages with two columns, space between the lines, drawings in the text, etc. Among the most significant results of this investigation was the fact that the opinion was almost unanimous against too small margins as well as asymmetrical margins, print without spaces between the lines, designs incorporated into the text in such a way as to narrow the width of the column of print, and solid columns of print (i. e. without any indented lines). A considerable majority of people (about 60%) do not like columns in books and periodicals.—S. Blachowski (Poznań).

1065. Eberhart, J. C. The nature and development of attitudes toward certain property offenses. *Psychol. Bull.*, 1935, 32, 724-725.—Abstract.—J. F. Dashiell (North Carolina).

1066. Elkind, H. B., & Taylor, M. The evaluation of juvenile courts and clinics. *Amer. J. Orthopsychiat.*, 1935, 5, 217-226.—This is an attempt to examine the meaning, process or method, and practicability of evaluation as it applies to any social agency, and to consider the principles involved. The principles outlined are applied to the evaluation of the juvenile court and clinic taken as a type of social agency.—J. McV. Hunt (Nebraska).

1067. Farnsworth, P. R. Musicality and abnormality. *Psychol. Bull.*, 1935, 32, 737.—Abstract.—J. F. Dashiell (North Carolina).

1068. Fox, C. W. An experimental study of naming. *Amer. J. Psychol.*, 1935, 47, 545-579.—The problem of the present study was to determine whether there is any intrinsic relationship between an object and the name selected for it. Series of nonsense drawings were presented with a list of 6 nonsense syllables at the side; the O's were required to select the name that seemed most suitable for the

drawings, and then to give an introspective report of why they selected that particular name. It was found that there was a high agreement between O's on the names selected for the figures, but the reasons given for such selections did not agree, except for the selection of words with the letters *i*, *z*, and *k* for sharp figures, and those with the letters *m*, *u*, *l*, and *b* for round figures. The author distinguishes between real reasons and reported reasons (rationalizations) for selection. Names selected for real reasons (e.g., the sounds of the letters) are remembered better than those selected for other reasons.—*D. E. Johannsen* (Skidmore).

1069. **Gates, A. I.** The structure of reading ability. *Psychol. Bull.*, 1935, 32, 560.—Abstract.—*J. F. Dashiell* (North Carolina).

1070. **Geniesse, H.** Stuttering. *Science*, 1935, 82, 518.—In 24 cases marked improvement, even to a complete cessation of stuttering, was noted when the stutterer spoke while walking on all fours. It is suggested that this may conceivably be due to the reinforcement of reflexes. Stuttering as a spastic phenomenon may be caused by a temporary stimulus applied to an upper motor neuron, and the assumption of the quadrupedal position causes an alteration of blood pressure which releases the blood that dilates the capillaries of the precentral cortex.—*R. Goldman* (Clark).

1071. **Glueck, E. T.** Mental retardation and juvenile delinquency. *Ment. Hyg., N. Y.*, 1935, 19, 549-572.—The background and characteristics of delinquents of lower and higher intelligence are compared. It is suggested that such differences as exist "definitely flow from the mental deficiency of the delinquents themselves and from the substratum of deficiency in their families." Institutionalization for defectives having marked emotional instability or suggestibility or psychopathy is necessary. Many delinquents of lower intelligence adjust in the community with the aid of supervisory service. There is a higher proportion of children of lower intelligence among delinquents than in the general population. The families of young delinquents of lower intelligence are less able to cooperate with any supervisory program.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

1072. **Groszlikowa, B.** Przyczynki do badań czytelnictwa dzieci i młodzieży. (Contribution to researches on the reading of children and youths.) *Polsk. Arch. Psychol.*, 1933-4, 6, 38-60; 116-152.—In the opinion of the author, answers to questionnaires concerning reading, if filled out in school, suffer considerably from the influence of teachers and the last readings in school. Such questionnaires should be conducted in connection with loan libraries, where the children have an opportunity to look over books and catalogues. After discussing interest in books during the successive stages of development of the child, the author finds that the literature for young people is not adapted to their mentality, but is too maudlin, too little concerned with the currents of modern life.—*S. Blachowski* (Poznań).

1073. **Groves, E. R.** The bearing of the sociology of the family upon educational theory and practice. *J. educ. Sociol.*, 1935, 9, 34-39.—"Not only should the family influence educational policy more than it does at present, but the significance of its own contribution should be more practically realized by both parents and teachers." Unfortunately school curricula are usually arranged in accordance with certain arbitrarily chosen criteria of accomplishment, irrespective of the relation which these accomplishments and the effort required in their attainment may have on the present and future social and emotional adjustments of the child.—*F. D. McTeer* (Wayne University).

1074. **Gundlach, R. H.** Factors determining the characterization of musical phrases. *Amer. J. Psychol.*, 1935, 47, 624-643.—The problem of this study was to determine in an objective way some of the compositional factors within music that fluctuate more or less closely with its character. A single musical phrase from each of 40 diverse pieces, electrically recorded, were presented twice in immediate succession before several groups of 20 to 40 listeners. The O's varied from advanced music students to individuals with little or no musical training; they were asked to check the phrase that best characterized the mood expressed by the composer, or to fill in a word if no suitable one was given. Reliability of judgment appears more dependent upon the piece than upon the O's training; all except one of the reliability *r*'s were above .75. Tempo, rhythm, intervals, range, loudness, mean pitch, and melodic range were analyzed for the pieces, and their relationships to the characterizations are indicated. The interrelations of the descriptive terms suggest that four factors are basic: the dynamical phase, tonality character, motility, and a fourth which is relatively insignificant and is not named.—*D. E. Johannsen* (Skidmore).

1075. **Gundlach, R. H.** Confusion in political and economic ideas among undergraduates. *Psychol. Bull.*, 1935, 32, 748-749.—Abstract.—*J. F. Dashiell* (North Carolina).

1076. **Gutheil, E.** Musical day-dreams. *Psychol. anal. Rev.*, 1935, 22, 424-431.—A musician seeks to free himself through communication with the outside world by means of his work. While the musician expresses his day-dreams, the listener uses the feeling built up by the former to establish his own day-dreams. Music expresses longings and wishes, and program music (opera, etc.) connects words and musical content. Often the words are suppressed (forgotten) because of their complex-taint. Music hummed thoughtlessly often expresses an unconscious wish; with psychotics this is particularly true. One neurotic revealed the basis of his tic when he told of dreaming of a certain musical phrase. Another with compulsive tendencies put father and son names together in a fantasy which revealed that he wanted to be joined with his own father, at the same time rejecting a step-father; it also revealed a deep mother attachment. A study of the meaning of music in this respect should prove a new means of studying deep

psychic mechanisms.—L. S. Selling (Recorder's Court, Detroit).

1077. Hayes, S. P., Jr. Political attitudes and party regularity. *Psychol. Bull.*, 1935, 32, 577.—Abstract.—J. F. Dashiell (North Carolina).

1078. Horowitz, E. L. A study of the process of the development of attitudes toward negroes. *Psychol. Bull.*, 1935, 32, 575-576.—Abstract.—J. F. Dashiell (North Carolina).

1079. Jacoby, H. Ueber die Veränderungen in Schriften todnaher Menschen. (On the changes in the writing of persons near death.) *Schrift*, 1935, 1, 56.—P. Klimpel (Leipzig).

1080. Kanger, A. Die Bedeutung der psychologischen Analyse der Handschrift bei der gerichtlichen Handschriftvergleichung. (The importance of graphological analysis for the forensic identification of handwriting.) *Schrift*, 1935, 1, 49.—The task of graphology is to determine how the permanent character traits and the changing psychological states are expressed in the handwriting. It is important to determine the psychological state in which the writing was produced, because this facilitates the clarification of identity.—P. Klimpel (Leipzig).

1081. Karsten, T. E. Melange des langues et emprunts. (Mingling of languages and their derivatives.) *Scientia, Bologna*, 1935, 58, 182-192.—Linguistic influences usually come from ethnological contacts. A higher culture usually impinges upon a lower one, but the consequences of this action are varied. By means of the cultural connections foreign terms are introduced from one language into another. Sometimes weak idioms disappear and at other times strong idioms are adopted into the weaker language. The best known mixed languages now in use are the Romance languages and English. In these languages there are a number of mixtures, one language apparently not being more dominant than the other. In Finnish there is also this sort of connection. One finds incorporated into the Finnish language a number of Swedish terms, some of which have definitely lost their identity but are different from the root terms used to describe the same objects. The author gives fourteen different groups of examples: examples from political life, agriculture, habitation and construction, metals and metallurgy, communications and navigation, fishery, dress, arms and equipment, domestic life, feast days and divisions of time, Christianity, words pertaining to the country and its parts, and names of parts of the body. He feels that the usefulness of idioms determines how often they might be assimilated, but he also points out that the relative ascendancy or submission of the language is extremely important.—L. S. Selling (Recorder's Court, Detroit).

1082. Karunovskaya, L. E. Predstavleniya altaicev o vselinnoi. (Representations of the universe by the inhabitants of the Altai Mountains.) *Sovetsk. Etnogr.*, 1935, Nos. 4-5, 160-183.—Indigenous representations, in crayon, of the universe, made by a shaman in 1928, show three regions, heaven, earth and hell, and the paths of the shamans to the sunlit

world and black hell where the evil spirits live. Accompanying verses in the old Altai language or Russian translation describe these spirits and their abode. The pictures show plainly a projection of social conditions into the fantasy world.—E. Kagarov (Leningrad).

1083. Kelley, G. O., & others. Woodside does read; a survey of the reading interests and habits of a local community. Jamaica, N. Y.: Queens Borough Public Library, 1935. Pp. 257. \$1.50.—R. R. Willoughby (Clark).

1084. Kelly, E. L. Student attitudes toward typical social institutions. *Psychol. Bull.*, 1935, 32, 748.—Abstract.—J. F. Dashiell (North Carolina).

1085. Krauss, F. S. Die Ödipussage in südslawischer Volksüberlieferung. (The Oedipus legend in a popular southern Slavic version.) *Imago, Lpz.*, 1935, 21, 358-367.—The German text of three forms of a southern Slavic version of the Oedipus legend.—H. D. Spoerl (Northeastern).

1086. Kris, E. Zur Psychologie älterer Biographik (argestellt an der des bildenden Künstlers). (On the psychology of early biography—illustrated by that of sculptors.) *Imago, Lpz.*, 1935, 21, 320-344.—Until recent times, biographies contained certain characteristic forms which were derived from generic fables. Examples are: the story of discovery of talent by a predecessor during the subject's childhood, the fable of deformity or other drawback, fables of special, intimate relations between the creative artist and his work. Such fables are especially illuminating in the case of sculptors. Prototypes of the examples cited are Cimabue and Giotto, Hephaestus, Pygmalion. The occasion for these fables is to be sought in symbolized urges. During the past century a different biographical technique has largely replaced them.—H. D. Spoerl (Northeastern).

1087. Lehman, H. C. The chronological ages of greatest productivity: chemists, inventors, poets, et altera. *Psychol. Bull.*, 1935, 32, 676.—Abstract.—J. F. Dashiell (North Carolina).

1088. Likert, R. A study of the attitude of 800 citizens of New York City toward the payment of the bonus. *Psychol. Bull.*, 1935, 32, 577.—Abstract.—J. F. Dashiell (North Carolina).

1089. Long, H. H. Test results of third-grade negro children selected on the basis of socio-economic status. II. *J. Negro Educ.*, 1935, 4, 523-552.—The first article (April 1935) outlined the problem and included results of analyses of social histories and gross test results in respect to both test and group differences. The present investigation is concerned with test analysis and with group comparisons. The following tests were selected: Stanford-Binet; Pintner-Paterson Short Performance Scale; Dearborn A Intelligence; Kuhlmann-Anderson Intelligence; New Stanford Reading (Paragraph Meaning and Word Meaning); New Stanford Arithmetic (Reasoning and Computation). 200 3rd-grade children were selected and divided into two groups of 100 each on the basis of socio-economic status. Group I is below the norm

for colored people of Washington in socio-economic status, while Group II is above the norm by about 15 IQ points. The correlations among the eight tests were factorized. The consistency of intelligence and achievement among themselves and the inconsistency of the signs of certain factors operating between achievement and intelligence tests are the most significant features. There is a tendency indicated in the groups for intelligence and achievement to vary inversely. The mutual inhibition in Group I suggests the possibility that environment and mis-education may account for the difference in terms. It is essential to study the consistency of the factors before combining tests into a composite battery. If the factor patterns are reliable the Kuhlmann-Anderson test is the most consistent measure of general ability for both groups.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.)

1090. Lyon, V. W. Deception tests with juvenile delinquents. *Psychol. Bull.*, 1935, 32, 685-686.—Abstract.—*J. F. Dashiell* (North Carolina).

1091. Maesse, H. Das Verhältnis von Laut- und Gebärdensprache in der Entwicklung des taubstummen Kindes. (The relation between phonetic and gesture language in the development of deaf-mute children.) Langensalza: Berger & Mann, 1935. Pp. 122. RM. 3.90.—There is a multiple relationship between phonetic and gesture language. Besides the independent gestures the author distinguishes (1) supporting, (2) explanatory, (3) additional, and (4) auxiliary gestures. There are no syntactic norms in gesture language.—*H. Maesse* (Berlin).

1092. Maller, J. B. Personality factors in juvenile delinquency. *Psychol. Bull.*, 1935, 32, 574.—Abstract.—*J. F. Dashiell* (North Carolina).

1093. Manuel, H. T. Spanish and English editions of the Stanford-Binet in relation to the abilities of Mexican children. *Univ. Texas Bull.*, 1935, No. 3532. Pp. 63.—A Spanish translation of the Stanford-Binet scale and the English edition were applied to 98 children in grades 2-5 of a school attended by Spanish-speaking (Mexican) children. In some cases the Spanish edition preceded the English, in the rest the English preceded the Spanish. Practice effect on either testing is considered to give an increase of 4 months in MA. The group studied had a low IQ on both editions. The subtests were studied and comparisons made for their relative difficulty in the English and Spanish versions. Vocabulary tests are especially important; language factors need much consideration in evaluating the abilities of bilingual groups. An appendix is included containing the "Spanish edition of directions for use with Terman's condensed guide for the Stanford Revision of the Binet-Simon Tests, 1920."—*R. Goldman* (Clark).

1094. McDougall, W. Pareto as a psychologist. *J. soc. Phil.*, 1935, 1, 36-52.—Pareto claims to have raised sociology from the class of non-logico-experimental to the class of logico-experimental sciences by a method which seems to consist in defining his essential terms with precision. No exact definitions, however, are given for his "residues," "sentiments,"

"interests," etc. His psychological sociology and psychology are mid-Victorian. The eulogists of Pareto, rather than the contribution of Pareto himself, are responsible for the space and time devoted to his writing.—*R. Goldman* (Clark).

1095. Meier, N. C. Further studies in creative artistic intelligence. *Psychol. Bull.*, 1935, 32, 737-738.—Abstract.—*J. F. Dashiell* (North Carolina).

1096. Morlaas, J. Du mimage au langage. (From mimicry to language.) *Encéphale*, 1935, 30, 197-208.—Has man always spoken, and is the language function innate? Pierre Marie denied such predestination. He noted that the seat of language is not absolutely predetermined and that if a child is attacked by a right hemiplegia within the first few years of its life, it is not aphasic. Oral language is the terminus of development. Man starts with mimicry and by progressive intellectualization creates symbolic gestures which become language when sound is superimposed on form.—*M. H. Piéron* (Sorbonne).

1097. Murchison, C. Pareto and experimental social psychology. *J. soc. Phil.*, 1935, 1, 53-63.—Pareto deals with the problems of behavior; problems of behavior are problems of experimental science. The work of Pareto is vitiated because "reflection alone can go far in the realm of thought, but in the realm of experimental science it is doubtful whether one thought unverified by experiment is any better than any other thought." The lack of definition and verification of the existence of sentiments, residues, etc., and the necessary analysis of the interrelation between these conceptual entities are discussed.—*R. Goldman* (Clark).

1098. Oberly, H. S. A preliminary report of experiments with West African negroes. *Psychol. Bull.*, 1935, 32, 558-559.—Abstract.—*J. F. Dashiell* (North Carolina).

1099. Odum, D. M. Some psychological factors in marriage. *Marriage Hyg.*, 1935, 2, 30-36.—Six factors of the marriage relationship are discussed and their relationship to successful and unsuccessful marriages given. A few suggestions are offered in the course of the discussion for the solving of some of the problems which the author finds.—*R. E. Garner* (Clark).

1100. Ombredane, A. Etudes sur le langage. Sur les premières manifestations du langage enfantin et sur la prétendue loi de Fritz Schultze. (Studies on language: On the first manifestation of infantile language and the law proposed by Fritz Schultze.) *Hyg. ment.*, 1935, 30, No. 4, 69-89.—Fritz Schultze states that the evolution of "lallation" is subject to the law of the least physiological effort and that phonetic utterances of babies evolve from labial phenomena to phenomena of greater effort, that is, the guttural phenomena. The author has observed that, contrary to the Schultze law, the evolution goes from phenomena involving strong muscular tension (the glottic) toward those having weak tension which are emitted from the most mobile vocal organs and which are the least integrated in the generalized tonic

reactions, that is, the labial phenomena. The pre-eminence of the labial phenomena marks the beginning dominance of the cortical functions and the approach of the period of imitation.—*M. H. Piéron* (Sorbonne).

1101. **Ortmann, O.** What is tone-quality? *Musical Quart.*, 1935, 21, 442-450.—Quality should be defined "as a psychological factor, resulting from the three physical elements (pitch, intensity, duration), and not as a fourth basic attribute." Tone-quality is a subjective reaction; it is not present in the original stimulus. Ortmann analyzes the qualities—sharp, round, clear, and rich. One should not speak of the tone-quality of an instrument, but rather of its qualities.—*P. R. Farnsworth* (Stanford).

1102. **Pareto, V.** The mind and society. (4 vols.) New York: Harcourt, Brace, 1935. Pp. 2033. \$20.—An English edition of Pareto edited by Arthur Livingston and translated by him and Andrew Bongiorno with the cooperation of J. H. Rogers. Volume I is concerned with "Non-Logical Conduct," under which the author discusses the scientific approach, non-logical conduct and its rationalization, theories transcending experience, and pseudo-scientific theories. In Volume II an analysis of sentiment (instincts, inclinations) is made, the theory of residues—the manifestation of sentiments—being presented together with the definition, description, and classification of these. Volume III takes up the theory of derivations—sentiment in thinking—discusses their evolution, their classification, and the properties of both residues and derivations. Volume IV is entitled "The General Form of Society," and considers the application of his theories to social systems. 100-page index and bibliography.—*D. Shakow* (Worcester State Hospital).

1103. **Patrick, C.** Creative thought in poets. *Psychol. Bull.*, 1935, 32, 572-573.—Abstract.—*J. F. Dashiell* (North Carolina).

1104. **Rau, M. M.** Mental deficiency in relation to inter-marriage. *Child Develpm.*, 1935, 6, 213-226.—Intelligence scores of 177 children in seven country schools in a remote and isolated section of Devon, England, are presented together with sociological data in regard to the villages concerned and their inhabitants. Because of the isolation of these villages considerable inter-marriage has taken place, and the author points out the possible relationship of this fact to the very high percentage of mental deficiency (54%) among the children tested.—*F. D. McTeer* (Wayne University).

1105. **Reuter, E. B.** An evaluation of the subjective methods of sociological research. *J. educ. Sociol.*, 1935, 9, 72-78.—All research methods are subjective to the extent at least of the understanding and insight employed by the scientist in the formulation of his problems and in the interpretation of his data. "It is the problem of sociologists to develop a set of techniques and particularly a conceptual system adequate to the research problems" of human personality.—*F. D. McTeer* (Wayne University).

1106. **Ronhaar, J. H.** Zijn inlanders en europeanen intellectueel gelijkwaardig? (Are natives and Europeans intellectually equivalent?) *Mensch en Maatsch.*, 1935, 11, 385-413.—This is a critical review of Moelia's dissertation "Primitive Thinking in Modern Science," which attempts to demonstrate the intellectual equivalence of Indonesian peoples and Europeans. Objecting to Moelia's choice of Bataks, Dajaks and Toradjas as examples of primitives, the author further maintains that Moelia's data are subjective impressions and that his interpretations are influenced by the fact that Moelia himself is a Batak. Against this study the author places Mérat's experiences with Senegalese soldiers in the French army. These men were found to be of low intelligence, incapable of reaching quick decisions in an emergency, lacking in initiative and imagination. Their conduct was determined by their attachment to and dependence on their officers, while negro officers habitually turned to their white colleagues for guidance and it was found necessary to attach a white subaltern to each negro officer for assistance. Moelia's conviction that the Indonesian peoples will, with proper guidance, be capable of reaching the cultural level of the average person of Western civilization does not seem to be based on objective evidence or to be consistent with experience.—*H. Beaumont* (Kentucky).

1107. **Roslow, S.** The attitude of a group of relief workers toward work relief. *Psychol. Bull.*, 1935, 32, 576.—Abstract.—*J. F. Dashiell* (North Carolina).

1108. **Sacerdote, A.** Due diversi tipi di delinquenti. Note sui criteri determinanti gli accertamenti peritali psichiatrici. (Two different types of delinquents. Notes on the criteria determining the opinions of psychiatric experts.) *Arch. antrop. crim.*, 1935, 55, 706-713.—The author describes two criminals examined by him, one a born criminal, normal and shrewd, planning his crime, calculating how to derive the maximum benefit therefrom and how to prevent discovery; the other one, impulsive and degenerate, ready to repeat his crimes upon release from prison. The author advocates, therefore, a systematic psychiatric examination of the inmates of penal institutions, prior to their release, and the transmitting of these findings to the judicial authorities and to the chiefs of public safety for their consideration before the release of any delinquents.—*R. E. Schwarz* (V. A. Facility, Northampton, Mass.).

1109. **Sanders, J.** Measuring scope in the use of and the belief in words by adults. *Psychol. Bull.*, 1935, 32, 559-560.—Abstract.—*J. F. Dashiell* (North Carolina).

1110. **Schultze-Naumburg, B.** Ist Graphologie eine Wissenschaft? (Is graphology a science?) *Umschau*, 1935, 39, 277.—*P. Klimpel* (Leipzig).

1111. **Selling, L. S.** Diagnostic criminology. Ann Arbor: Edwards Bros., 1935. Pp. 176. \$2.25.—This is a handbook intended for psychiatrists who work in juvenile and criminal courts, as well as sociologists, psychologists and others who may be associated with them. It is basically intended as a manual of directions for carrying out the examinations of both adult

and juvenile offenders. There are two introductory chapters, one treating of criminology in general, the other giving the historical background of psychiatric criminology with particular reference to the law regarding insanity, modifications in the attitude toward the criminal, changing from the penal to the corrective point of view, and a short discussion on the mental-hygiene viewpoint of the subject in general. In addition to a chapter each on the examination of the adult and juvenile offender there is another chapter describing important psychiatric syndromes occurring in the child and in the more mature criminal. In the case of the adult such conditions as schizophrenia, traumatic and organic psychosis are discussed, while in the case of a child there is a brief description of abnormal behavior complexes due to over-protection, rejection, feeble-mindedness, etc. There are some samples of reporting letters and a bibliography.—*L. S. Selling* (Recorder's Court, Detroit).

1112. Serrus, C. *La psychologie de l'intelligence et la linguistique.* (The psychology of intelligence and linguistics.) *Bull. Soc. franç. Phil.*, 1934, 34, No. 1.—Linguistics belongs to psychology in its treatment of meaning and to logic in its treatment of the object. Linguistics may therefore coordinate the psychological studies of intelligence and the theory of the syllogism. The forms of language always influence the course of thought and it is the object of science to formulate this in a law.—*M. H. Piéron* (Sorbonne).

1113. Shearer, E. A. *Dewey's esthetic theory.* *II. J. Phil.*, 1935, 32, 650-664.—Dewey develops the naturalistic basis of art. His argument is "a confident account of art as that in which sensuous experience grows into its full possibilities." Each art devotes itself to a special sense, expressing in that medium the qualities normally experienced by other senses, and developing the fullest range of character and significance. All the arts have the common substances of space and time by means of which they express volume, movement, relation of parts, and form. The sense of an including whole, never fully realized in ordinary experience, is "rendered intense within the frame of a painting or poem." The meanings and values developed in art are communicated and shared, thus forming the basis of the purest kind of human association. In the tradition of the great philosophers of art Dewey emphasizes the creative character of the imagination in shaping fluid experience into form and revealing its individual character.—*E. T. Mitchell* (Texas).

1114. Smith, S. S., & Isotoff, A. *The abnormal from within. Dostoevsky.* *Psychoanal. Rev.*, 1935, 22, 361-391.—Dostoevsky was an epileptic, although Freud, lacking some knowledge of his case, considered him a hystero-epileptic. Dostoevsky was said to have predicted Freudian psychology, but he did not understand the psychic bases of abnormal conduct. The present study is intended, through analysis of the psychopathic conditions discussed in his writings and a study of his own mind, to give quasi-scientific

evidence as to the plausibility of certain psychological theories. In his writings he vivifies the subjective states of his abnormal characters. Essentially, he was an unstable genius; his contacts gave him insight into the minds of criminals and other abnormals. Carus' *Psyche* had much influence on him. A number of cases are taken from his writings: 4 epileptics, 2 definite cases of hysteria (with a suggestion as to others), 1 senile dement, and 4 psychopaths. These are delineated and discussed. There is a discussion of the dreams of his characters. The conclusion is that Dostoevsky's characterizations are more in keeping with the patterns of case study of non-psychoanalytic psychopathologists than with those of the Freudian group.—*L. S. Selling* (Recorder's Court, Detroit).

1115. Smoke, K. L. *The present status of social psychology in America.* *Psychol. Rev.*, 1935, 42, 537-543.—Social psychology in America is characterized by (1) the range of phenomena included, as shown by an analysis of titles in the *Journal of Social Psychology*; (2) the widely varying emphasis placed on different topics, as shown in the current textbooks; and (3) a tendency to develop research on specific clearly defined problems by objective methods. What is needed is a reorganization and systematization of the field.—*A. G. Bills* (Chicago).

1116. Spitz, R. A. *Frühkindliches Erleben und Erwachsenenkultur bei den Primitiven.* (Childhood experience and adult culture among primitive peoples.) *Imago, Lpz.*, 1935, 21, 367-387.—Comments on Mead's *Growing up in New Guinea*, which is summarized in some detail. From the point of view of psychoanalysis there is a striking contrast between child rearing among the Manus and among the Arunta as reported by Róheim. This contrast is reflected in the adult cultures. With the Manus, described by Mead, there is much repression, "both anal and sexual. The result is an adult society in which private property and the rudiments of a 'capitalistic' economy play a central rôle; adult sexuality assumes neurotic forms suggestive of our own compulsion neurosis." The precise causation of this result is not stressed.—*H. D. Spoerl* (North-eastern).

1117. Stanton, F. N. *A new method for studying radio listening behavior.* *Psychol. Bull.*, 1935, 32, 703.—Abstract.—*J. F. Dashiell* (North Carolina).

1118. Stanton, H. M. *Measurement of musical talent: the Eastman experiment.* *Univ. Ia Stud. Psychol. Music*, 1935, 2. Pp. 140.—The main thesis of this volume is that persons given low ratings in capacities by the Seashore measures of musical talent are not likely to achieve success in music and that persons ranked high by the test scores tend to achieve in proportion to their greater endowment. Musical education and training for a three-year period effected little change in test results. Constancy of scores of children increased with higher educational levels. A special project aimed to improve teachers' estimates of pupils' talent resulted in an increased consistency of talent ratings and an increased consistency be-

tween the talent ratings and the objective measures. A cumulative key for the prognosis of musical achievement was found to predict successfully musical progress in the school. The inheritance of musical ability was investigated in families of six famous musicians.—*B. Wellman* (Iowa).

1119. Stein-Lewinson, T. *Graphologische Betrachtung zum Hauptmann-Fall.* (Graphological considerations on the Hauptmann case.) *Schrift*, 1935, 1, 87.—*P. Klimpel* (Leipzig).

1120. Strelisker, G. *Das Erlebnis der Handschrift. Technik der modernen Graphologie.* (The experience of handwriting. Technique of modern graphology.) Leipzig, Berlin: Steyrmühl, 1935. Pp. 223. RM. 2.10.—*R. R. Willoughby* (Clark).

1121. Stump, N. F., & Lewis, A. What some ministers think about war; some findings from a brief statistical study of ministers' responses toward war. *Relig. Educ.*, 1935, 30, 135-137.—The study deals with the attitudes toward war held by 80 ministers chosen at random from four different denominations. Drob'a's scale, containing 22 statements, was used. Only 5% were neutral in their attitude toward war; the remainder were strongly pacifistic. The *r* between age and scores was -.337, the trend being in the direction of less extreme views in the case of the older ministers and the more extreme attitudes of pacifism among the younger ministers.—*R. Goldman* (Clark).

1122. Telford, C. W. Studies of the test-performances of full- and mixed-blood North Dakota Indians. *Psychol. Bull.*, 1935, 32, 709.—Abstract.—*J. F. Dashiell* (North Carolina).

1123. Tinker, M. A. Studies in scientific typography for children. *Psychol. Bull.*, 1935, 32, 703-704.—Abstract.—*J. F. Dashiell* (North Carolina).

1124. Trueblood, C. K. The deterioration of language in senility. *Psychol. Bull.*, 1935, 32, 735.—Abstract.—*J. F. Dashiell* (North Carolina).

1125. Vandervelde, É. *Le code pénal et les délinquants anormaux.* (The penal code and abnormal delinquents.) *Arch. antrop. crim.*, 1935, 55, 696-700.—In this article the author pays homage to Vervaeck, to whom he, as Minister of Justice, entrusted the organization of anthropological examination of the delinquents confined in the psychiatric annexes to Belgian prisons. The author reviews the humanitarian effects of the law of April 9, 1930, the project of which he had conceived in 1921 when he was Minister of Justice, which is applied only in cases of serious abnormality, substituting internment for imprisonment, cure for punishment, doctors for lawyers, thus revolutionizing the penal code of Belgium. He concludes with the expression of hope that France will follow the example of Belgium and that some day he will say with Anatole France: "There are no criminals. There are only unfortunates!"—*R. E. Schwarz* (V. A. Facility, Northampton, Mass.).

1126. Welsch, F., Pulver, M., & Jacoby, H. *Diskussion über graphologisch-charakterologische Grenzfragen.* (Discussion of borderline problems

of graphology and characterology.) *Schrift*, 1935, 1, 70.—*P. Klimpel* (Leipzig).

1127. Wile, I. S. The personality of King Lear as a young man. *Amer. J. Orthopsychiat.*, 1935, 5, 325-336.—An attempt to reconstruct the youthful personality of King Lear from his utterings as an old man.—*J. McV. Hunt* (Nebraska).

[See also abstracts 704, 752, 768, 867, 869, 886, 906, 907, 926, 932, 961, 962, 964, 965, 1031, 1032, 1047, 1050, 1051, 1156, 1165, 1189, 1202, 1226, 1234, 1235, 1238, 1243, 1245, 1246, 1248, 1249, 1254, 1255, 1256, 1257, 1258, 1261, 1264, 1265, 1267, 1269.]

INDUSTRIAL AND PERSONNEL PROBLEMS

1128. Anderberg, R. *Denkleistungsproben und Intelligenzprüfungen bei der Rekrutierung in der schwedischen Marine.* (Performance ability tests and intelligence examinations of the recruits in the Swedish Navy.) *Industr. Psychotech.*, 1935, 12, 193-210.—Both types of tests tended to differentiate the officers and the under-officers from the candidates. In the performance tests 100% of the officers, 96% of the under-officers, and 62% of the recruits made scores above a critical limit. In the intelligence tests 100% of the officers, 92% of the under-officers, and 66% of the candidates exceeded a critical score.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1129. [Anon.] *Psychotechnische Eignungsprüfungen in Pariser Strassenbahn- und Omnibuswesen.* (Psychotechnical efficiency surveys of Paris street-car and omnibus service.) *Industr. Psychotech.*, 1935, 12, 248-251.—A summary of the work of Bacqueyrisse, showing that in Paris the number of accidents per person carried in 1923 was about $4\frac{1}{2}$ times larger than in 1933. Over two-thirds of this improvement occurred since 1931.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1130. Biegeleisen, B. *Diagnostyczność badań psychotechnicznych w szkołach zawodowych.* (Diagnostic value of psychotechnical examinations in trade schools.) *Psychotechnika*, 1935, 9, 9-27.—From a comparison of the results of an examination of pupils in the Industrial School at Cracow (329 persons) with the results of an examination of pupils in the Silesian Institute at Katowice (224 persons), the conclusion is drawn that young members of the collier class are more gifted technically than the youth in the Industrial school of the city of Cracow, although the latter group contains fewer individuals of low ability than the Katowice group. The author then investigates the diagnostic value of the psychotechnical examination by comparing its results with school report cards for the first year of instruction. The coefficient he thus obtains is $r = .46 \pm .071$. Comparing a series of opinions of different teachers as to the same pupil, he finds, on the average, an agreement in their judgments of only .35; while the different test results of the same pupil agree much better, and give an average of .70. The author therefore concludes that the psychotechnical examina-

tion gives a better picture of a pupil's mentality than school reports, and thus confirms the standpoint he took in another paper (in *Revue de la Science du Travail*, 1930), where he stressed the inadequate nature of opinions expressed by pedagogues. Furthermore, on the basis of the results of his inquiry the author describes a number of traits characteristic of inapt pupils.—*M. Dybowski* (Poznan).

1131. Bingham, W. V. **Classifying and testing for clerical jobs.** *Person. J.*, 1935, 14, 163-172.—A survey of types of work done by clerical employees, with a classification of jobs and salaries paid. Perceptual, intellectual, special skill, and motor abilities are involved in varying degrees in the several jobs and may be tested by such a test as the Thurstone Examination for Clerical Proficiency.—*L. A. Riggs* (Clark).

1132. Cleeton, G. U. **Measuring susceptibility to accidents in street car operators.** *Psychol. Bull.*, 1935, 32, 704.—Abstract.—*J. F. Dashiell* (North Carolina).

1133. Fiertz, C. O. **Medical and psychiatric services in the adjustment service.** *Amer. Ass. Adult Educ. Adjustm. Serv. Rep.*, 1935, No. 6. Pp. 36.—A report on the physical and mental examination employed in an experimental adjustment service for unemployed adults in 1935. Psychiatrists discovered the effectiveness of a single brief interview in clearing up acute worries and poor habits of living, such as arise from overdependence and fixations on parents. The effectiveness of the brief interviews was made possible by the large amount of information available in case reports before the patient had the interview. The psychiatric classification revealed that 33% of the readjustment cases had personality difficulties, 14% were psychoneurotic, 6% pre-psychotic, and 3% psychotic. The majority of cases were "within normal variation."—*J. W. Gassner*.

1134. Finch, F. H. **The permanence of vocational interests.** *Psychol. Bull.*, 1935, 32, 682.—Abstract.—*J. F. Dashiell* (North Carolina).

1135. Gosselin, A. J. **Improving morale of phone girls.** *Person. J.*, 1935, 14, 173-182.—To counteract growing discontent in a telephone office, a new manager was brought in from an outside office. She systematically interviewed each employee and made up a table showing their attitudes toward the job and the personnel. By continuing this procedure year by year the company hopes to preserve a better understanding between management and employee with a resulting increase in efficiency.—*L. A. Riggs* (Clark).

1136. Hasse, A. **Leistung und klimatische Bedingungen im Bergbau.** (Performance and atmospheric conditions in mining.) *Arbeitsphysiologie*, 1935, 8, 459-475.—Tests with an ergograph were made in the mine under varying conditions. The 28° temperature usually set as a limit for effective work did not hold in this case. It is suggested that the diagrams for effective temperature (Yaglou) which were obtained under conditions of rest or light work should

be developed similarly for heavy work.—*H. E. Burr* (Ohio State).

1137. Hawkins, L. S. **Development of informational resources of the adjustment service.** *Amer. Ass. Adult Educ. Adjustm. Serv. Rep.*, 1935, No. 5. Pp. 75.—The report offers a description of the many varieties of environmental information which are brought together at the Adjustment Service and the manner in which the material was organized and made available to staff and clients.—*R. Goldman* (Clark).

1138. Husband, R. W. **Personality traits of salesmen.** *Psychol. Bull.*, 1935, 32, 705.—Abstract.—*J. F. Dashiell* (North Carolina).

1139. Ivana, V. M., & Mayerhofer, G. **Étude de la profession de dispatcher et méthodes pour la sélection professionnelle dans les services de transports par camions automobiles.** (Study of dispatchers and methods of selecting them for automobile trucking.) *Travail hum.*, 1935, 3, 297-327.—Job analysis of dispatching trucks. The criterion was obtained by means of a questionnaire. The tests were evaluated with a view to rejecting the inefficient rather than selecting the most promising. Out of 85 dispatchers there were only four cases in which the tests would have made serious mistakes. The best tests were matched proverbs, attention as revealed in pursuit and cancellation performance, directions tests from Army Alpha, the plan of a city with instructions to cover the most ground in a given time with stipulated limitations, a "what should you do" test regarding a truck situation and a test with a miniature auto and miniature items of load, labeled as to weight and fragility, to be loaded in the miniature truck. The investigation was made in Russia.—*H. E. Burr* (Ohio State).

1140. Jenkins, J. G. **Psychology in business and industry. An introduction to psychotechnology.** New York: Wiley, 1935. Pp. xii + 388. \$2.50.—In his introductory section the author distinguishes sharply between psychotechnology and the psychological arts of practice. The former "is a search for generalized information by means of controlled observation," the latter "include all those attempts to deal with the needs of specific individuals or specific cases as they arise in the daily routine of industrial life." The instruments and generalizations of psychotechnology have a degree of dependability which is always measured and known, while those of practice are unknown. Without deprecating the value of the arts of practice, the author presents an introductory text in psychotechnology. The book is divided into 16 chapters under 6 sections. After (1) the introduction to psychotechnology, the author takes up psychological problems: (2) in industrial selection, (3) in industrial production, (4) in personnel, (5) in industrial distribution, (6) in market research. References are given in footnotes throughout the book, and there are indices to both names and topics.—*J. McV. Hunt* (Nebraska).

1141. Kitzinger, H. **A study of certifications for psychologists under state education departments.** *Psychol. Exch.*, 1935, 4, 21-23.—A brief summary of

outstanding requirements in Illinois, New Jersey, New York, Pennsylvania, Wisconsin, and Wyoming.—*J. F. Dashiell* (North Carolina).

1142. Kornhauser, A. W., & Lazarsfeld, P. F. The techniques of market research from the standpoint of a psychologist. *Inst. Mgmt Ser.*, 1935, No. 16. Pp. 24.—*R. R. Willoughby* (Clark).

1143. Macewicz, P. Wypadki lotnicze w świetle liczb. (Aviation accidents in the light of statistics.) *Psychotechnika*, 1935, 9, 112-120.—Basing his study upon material collected by the Centrum Badań Lotniczo-Lekarskich (Center of Aviation Medical Research) of Warsaw, the author has analyzed statistically the relation of age, years of service in the air force, and division of service to the number of accidents among military aeroplane pilots engaged in flying. The number of persons studied was 459; the number of accidents, 1198. The pilots were divided into three groups: day-flight, night-flight, and pursuit-plane pilots. The results of the calculations show that: (1) the number of accidents is proportional to the age of the pilot—the higher the age of the pilot, the more accidents he has; (2) the number of accidents is directly proportional to years of service as a pilot; (3) the number of accidents is inversely proportional to the total number of hours flown by the pilot. Conclusions (1) and (2) indicate that "over-flying" means passing a given age, especially in the case of day-flight pilots. Conclusion (3) indicates that in general the more total hours of flight a pilot has behind him, the safer he is, within definite age limits. The second and particularly the third hundred hours flown show the lowest coefficient of safety; this coefficient is found by computing the number of hours of flight in a given group per accident, since the greater the number of hours per accident in a given group, the rarer the accidents within it and the greater the safety.—*M. Dybowski* (Poznan).

1144. Mellian, A. Problemas medicos de la orientación y la selección profesionales. (Medical problems in vocational guidance and selection.) *Rev. Org. cient.*, 1934, 4, 363-381.—The contribution of medical examinations to vocational problems is negative, indicating lines in which the individual would be handicapped. A correlation between morphology and character is suggested, for example, the digestive type being frequent among politicians.—*H. E. Burt* (Ohio State).

1145. Moede, W. Die Kennzeichnungswerte menschlicher Arbeit. (The evaluation of human work.) *Industr. Psychotech.*, 1935, 12, 1-9.—Methods of measuring physical, physiological, and psychological aspects of work as they are related to industrial economy and the welfare of the worker are considered. Several techniques of loading and carrying, and energy expenditures, are reported.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1146. Mühl-Kühner, R. Analyse und Prüfung der Tätigkeit des Melders. (Analysis and examination of the activity of couriers.) *Industr. Psychotech.*, 1935, 12, 211-223.—The following selection from nine

tests was employed in the examination of military couriers: (1) associative memory; (2) visual-intuitive memory and observation ability; (3) distributive attention; (4) combinations; (5) concentration capacity; (7) olfactory stimulus direction discrimination; (8) interpretation of noises with regard to their quality. The most important tests were found to be numbers 1, 2, and 4. The ranking of scores on these correlated highly with military standing.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1147. Perl, R. E., & Bryan, A. I. Vocational factors in mental organization. *Psychol. Bull.*, 1935, 32, 557-558.—Abstract.—*J. F. Dashiell* (North Carolina).

1148. Repond, A. Psychologie et psychopathologie de l'automobilisme. (Psychology and psychopathology of motoring.) *Ann. méd.-psychol.*, 1935, 93, Part 2, 34-50.—The automobile gives the driver a sense of power. He may identify himself with the more powerful machine and thus compensate for his feelings of inferiority. The pedestrian, on the contrary, tends to resent the driver who makes him feel inferior. The automobile has led to much greater freedom for youth, especially for sexual experiences, and has facilitated such crimes as kidnapping and bank robberies. It has greatly increased accidental deaths. About 80% of the automobile accidents have psychological rather than mechanical causes. Reverie with little attention to driving, unconscious desire to murder or commit suicide, and aggressive tendencies as a result of emotional conditions of anger and hate are the cause of more accidents than speeding, poor roads, or mechanical defects in the cars. Of course, the unconscious motives are rationalized. Traffic laws will be enforced only when they become part of the morals of the drivers. Children should be taught the driver's viewpoint as well as the pedestrians'. Reckless drivers should be given psychiatric treatment.—*M. B. Mitchell* (New Hampshire State Hospital).

1149. Rose, H. Die Angemessenheit psychotechnischer Prüfmittel. (The reliability of psychotechnical examination methods.) *Industr. Psychotech.*, 1935, 12, 230-238.—Proficiency in general is the resultant of four factors, viz.: management (of individual and group work, and of time); dexterity (manual, mechanical, machine); personal (age, sex, occupation); and motivation-ability (accomplishment-capacity), conduct, and character.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1150. Schmidt, H. Kraftfahrereignungsprüfungen in England. (Driving skill tests in England.) *Industr. Psychotech.*, 1935, 12, 28-32.—Scores on a battery of tests devised by the National Institute of Industrial Psychology (England) consisting of reaction time, resistance to distraction, vigilance, vision, visual coordination, judgment of spatial relationships, judgment of relative size of near and distant objects, and judgment of speeds, are compared to those made in a simulated driving situation test in which confidence, road behavior and manipulation were determined. The eight tests and the driving situation

technique are described briefly and a typical profile is shown.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1151. **Schultz, R. S.** Standardized tests and statistical procedures in selection of life insurance sales personnel. *Psychol. Bull.*, 1935, 32, 705.—Abstract.—*J. F. Dashiell* (North Carolina).

1152. **Thurstone, L. L.** A vocational interest schedule. *Psychol. Bull.*, 1935, 32, 719.—Abstract.—*J. F. Dashiell* (North Carolina).

1153. **Wadsworth, G. W.** Tests prove worth to a utility. *Person. J.*, 1935, 14, 183-187.—The entire force of a utility company was given two intelligence tests. Results correlated .68 with man-to-man estimates by supervisors of "relative value to the company." A comparison of employees hired prior to the adoption of testing and those hired on the basis of test standing indicated a reduction of unsatisfactory employees from 29% to only 5.5% of the total force.—*L. A. Riggs* (Clark).

1154. **Wilds, S.** Die Ermüdung des Kraftfahrers wird gemessen. (Fatigue in drivers of motor vehicles is measured.) *Umschau*, 1935, 39, 524.—Report on the experiments of Andrew E. Ryan of Chicago.—*P. Klimpel* (Leipzig).

[See also abstracts 740, 742, 802, 876, 1161, 1174, 1201, 1203, 1223.]

EDUCATIONAL PSYCHOLOGY

1155. **Alexander, C.** The place of instruction in library methods in educational research. *J. educ. Res.*, 1935, 29, 104-110.—Library methods are as important for educational research as a knowledge of statistical methods. The needs for and the essentials of adequate library methods are outlined.—*S. W. Fernberger* (Pennsylvania).

1156. **Altstetter, M. F.** The reading interests and experiments of 214 teachers. *Peabody J. Educ.*, 1935, 13, 80-84.—College students ($N = 214$) from 22 states were asked to answer 5 "Yes-No" questions about reading experiences. The results suggest that teachers have played a negligible part in the formation of reading interests, that reading tastes involve a mixture of literary and non-literary materials, and that excerpts from books are conducive to reading when pupils know about the books from which they are taken.—*N. B. Cuff* (Eastern Kentucky).

1157. **Averill, L. A.** Directing the activities of the classroom toward the mental-health objective. *Ment. Hyg.*, N. Y., 1935, 19, 530-548.—Three essentials to a purposeful education in a democracy are listed: (1) a pervading educational philosophy; (2) appropriate teaching materials; (3) an adequately qualified teaching staff. Educational leadership should devote less time to such matters as self-expression in education and concern over tests and measures, and devote more time in planning a course of study that would make for "rational self-control and self-government" in the coming generation. More adequate textbooks in social subjects are needed, since the next generation needs to be equipped with training for socially ade-

quate living. The importance of raising standards for admission to teacher training schools is emphasized.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

1158. **Bradbury, D. E., & Skeels, E. L.** An analysis of the literature dealing with nursery education. *Child Develpm.*, 1935, 6, 227-230.—Analysis of the 840 references which make up the bibliography of nursery school education published by the National Association for Nursery Education indicates that although the first publications on this subject began to appear in 1919, 50% of the material published from that time up to December 1934 has appeared since 1929. Early publications were predominantly descriptive of particular nursery schools; more lately research reports have increased markedly.—*F. D. McTeer* (Wayne University).

1159. **Charters, W. W.** Institutional promotion of field research. *J. educ. Res.*, 1935, 29, 114-117.—Institutions may promote research in education by training in research techniques and in the organization of research projects. Institutions can greatly aid in formulation of large problems the parts of which are done by different field workers.—*S. W. Fernberger* (Pennsylvania).

1160. **Christensen, A. M.** The educational and social aspects of the high school graduate. *Univ. Ia Stud. Educ.*, 1935, 10, No. 1, 1-25.—Questionnaire returns from 2125 graduates of the public high schools of a region in western Minnesota were analyzed for age at time of graduation, church affiliation, marital status, migration, occupational desires, nationality and occupation of parents, size of family, stability of parental homes, parental ownership of automobiles, educational influence of parental homes, college attendance, employment, and scholarship. Scores on Bernreuter personality inventories of 405 college, employed and unemployed persons were compared.—*B. Wellman* (Iowa).

1161. **Christiaens, C.** Zur Eignungsbegutachtung von Fachschülern und Gymnasiasten in Brüssel. (Judgments of efficiency of professional school students and public school pupils in Brussels.) *Industr. Psychotech.*, 1935, 12, 9-15.—28 pupils from the A, B, C, and D school performance groups were given six tests, (1) directions, (2) attention, (3) Ebbinghaus test, (4) judgment ability, (5) logical thought, and (6) speed of understanding. The tests have thus far proven differentiating and follow-ups are to be made next year.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1162. **Coxe, W. W.** Functions of research bureaus in state departments of education in promoting research among field workers. *J. educ. Res.*, 1935, 29, 110-114.—Field research may be aided by research departments in state organizations by the preparation of bibliographies and by criticizing and planning research studies as well as in other ways.—*S. W. Fernberger* (Pennsylvania).

1163. **Cuff, N. B.** A new device for scoring tests. *Peabody Reflector*, 1935, 8, 135-136.—A mechanical

device can be used to tally examination grades by ounces. Papers may be graded 120 times more accurately than by usual methods for about 5% of the ordinary cost of giving and scoring.—*N. B. Cuff* (Eastern Kentucky).

1164. **Cunningham, K. S.** [Ed.] **Australian Council for Educational Research. Fifth annual report 1934-1935.** *A. R. Aust. Coun. educ. Res.*, 1935, 5. Pp. 34.—The report on the standardization of the Council's silent reading tests is now in press. A non-verbal test of general ability and a number of spelling lists are being devised; it is planned to administer the non-verbal test and the Otis S-A to a large sample of pupils so that the tests will be standardized for Australian conditions. A chemistry test by R. W. Stanhope is being standardized on groups of secondary school pupils. A questionnaire study concerning the training of teachers has been undertaken. The practical matters which the Council has investigated since its inception are: the curriculum of the primary school; the use of moving pictures as an educational aid; the use of intelligence tests for predicting school success; defects of speech in school children; color blindness; the absorptive capacity of various occupations; the length of the teacher's professional life; the best methods of revision of school work; juvenile delinquency; the value of school broadcasting; the teaching of history and civics; class grouping; the education of retarded children. A complete list of the Council's publications is given.—*R. Goldman* (Clark).

1165. **Dewey, J. C.** **A case study of reading comprehension difficulties in American history.** *Univ. Ia Stud. Educ.*, 1935, 10, No. 1, 26-54.—The nature and limitations of comprehension in reading history at the eighth-grade level were investigated by paper and pencil tests given to 140 pupils and oral interviews with 85 pupils. Inconsistencies of response were uncovered by the two techniques. More use of the interview in studying children's reading comprehension is recommended. Too much confidence should not be placed in verbal responses as evidence of understanding or in verbal presentation as an adequate method of teaching.—*B. Wellman* (Iowa).

1166. **Dimmick, G. B.** **Interest inventories of psychology students.** *Kentucky Person. Bull.*, 1935, No. 15.—Comparisons were made between groups making A and B grades and those making D or E grades in general psychology in respect to their ratings on Miner's blank for the analysis of work interests. Comparisons were also made with a random group of freshmen. Statistically reliable differences were found. Besides intelligence there are interests and attitudes contributory to success in specific college courses. Criteria for the selection of fields of study can be found on the basis of inventories.—*R. Goldman* (Clark).

1167. **Douglass, H. R.** **Scientific investigation of instructional problems.** *J. educ. Res.*, 1935, 29, 130-138.—Discussion of field research in curriculum, methods of teaching and tests. Proper training of workers is urged.—*S. W. Fernberger* (Pennsylvania).

1168. **Elkind, H. B.** **A mental-hygiene survey of the state teachers colleges of Massachusetts.** *Ment. Hyg., N. Y.*, 1935, 19, 619-634.—This survey was limited to the teaching of education, educational psychology, testing, hygiene, and physical health education. The medical service afforded the student was also studied to determine the relation to the problem of student-teacher personality development. The writer concluded that courses in educational psychology should introduce the new material in that field which is now assuming an important place. The need for laboratory experimentation is stated. More time should be spent in testing, but only in exceptional cases should student teachers be encouraged to become clinical examiners. Instructors in related fields should confer in order to avoid overlapping. A child guidance agency in connection with the training school would be of aid in paralleling classwork with observation. The study of psychology should be introduced the first year in all training schools. A short course on exceptional children should also be included in the curriculum as well as a course in mental hygiene.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

1169. **Faber, —.** **Eignungsfeststellungen an tschechoslowakischen Hochschulen.** (Fitness determination in Czechoslovakian high schools.) *Industr. Psychotech.*, 1935, 12, 25-28.—A summary of Seracky's work. 400 first-semester students answered questions indicative of their vocational interests. They were placed in ten occupational interest categories. Further test information on two other groups of similar students is offered.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1170. **Giese, F.** **La idea de l'escola activa en el seu desenvolupament.** (The idea and evolution of the activity school.) *Rev. Psicol. Pedag.*, 1935, 3, 1-18.—With special reference to Germany, Giese discusses the historical development and the psychological and philosophical bases of activity schools and the changes in aims and methods necessitated by present social, industrial and economic conditions. Their various forms have represented the psychology and philosophy of their epochs; their connecting link is the idea of work. He thus reviews the Froebel kindergarten, the Montessori school, Merz' Werk-schule, the modern vocational school and the influence of industry on it; the adoption of activity methods in teaching abstract subjects; and the German "service of voluntary work" growing out of the unemployment problem. He also develops a philosophy of work, contrasting work as an economic and utilitarian end with the idea of work as an inner dynamic process independent of economic considerations. The latter conception is demanded by our new cultural aims, which bring regeneration by renunciation of a purely intellectual solution of life's problems.—*M. E. Morse* (Baltimore).

1171. **Gleason, C. W.** **Progress in the development of a new medium for psychological instruction and experimentation.** *Psychol. Bull.*, 1935, 32, 573.—Abstract.—*J. F. Dashiell* (North Carolina).

1172. Good, C. V. **Selected bibliography on the methodology of educational research and related problems, 1934-1935.** *J. educ. Res.*, 1935, 29, 156-170.—Bibliography of 234 titles classified under 5 headings.—S. W. Fernberger (Pennsylvania).

1173. Gray, J. S. **Psychological foundations of education.** New York: American Book, 1935. Pp. 534 + xiii.—This volume is intended for somewhat mature students of education who have had a good first course at least in psychology. The writer rejects psychical monism, dualism and pragmatism as inadequate philosophical bases, and embraces physical monism, which he believes to be more in harmony with the other objective sciences, and to augur better for the future development of psychological thought and educational concepts. The book is divided into two parts, the nature of man and the nature of education, to each of which several chapters are devoted. Under the former heading the author inquires into the various systems of psychology; renounces the Thorndikian concept of original nature, intelligence and learning; and finds purely objective explanations adequate to account for all behavior of the human reagent. Under the latter heading, to which substantially half the book is devoted, he defines the purpose of the educative process as the bringing about of "behavior variability," thus agreeing with Dewey's "constant reorganizing or reconstruction of experience"; states the most efficient educational method to be problem solving; denounces the fact-teaching and recitation methods; and reviews, in the light of his objective preconceptions, the inadequacy of the traditional selection of educational content.—L. A. Averill (Worcester Teachers College).

1174. Hoppock, R. **Comparisons of satisfied and dissatisfied teachers.** *Psychol. Bull.*, 1935, 32, 681.—Abstract.—J. F. Dashiell (North Carolina).

1175. Johnson, R. I. **A reason for study.** *J. higher Educ.*, 1935, 6, 352-356.—The "doctrine of purpose" in education brings about a vital correlation between learning and living. The basic consideration of study is the growth and development of an individual in relation to his own powers and abilities. Critical of the educational pattern giving expression to our present reasons for study, the author indicates a "revolution in attitudes" in the class-room resulting from a "directive consciousness of purpose" which will secure the functional value of education.—R. A. Brotemarkle (Pennsylvania).

1176. Jones, E. S. **Morale building as a function of education.** *Psychol. Bull.*, 1935, 32, 708.—Abstract.—J. F. Dashiell (North Carolina).

1177. Judd, R. D. **Disabilities of college students in arithmetical computations.** *Peabody Reflector*, 1935, 8, 55-56.—An investigation of 118 Kentucky and Tennessee college students shows that they make use of 21 crutches in arithmetical computations. The most frequently used crutch is searching around in a column of figures for combinations of 10, next the multiplication of a number by its frequency in a column in addition; third, it was found that many

college students move their lips in doing sums.—N. B. Cuff (Eastern Kentucky).

1178. Kelly, W. A. **Educational psychology.** (Rev. ed.) Milwaukee: Bruce, 1935. Pp. 561. \$2.40.—See VIII: 2272.—R. R. Willoughby (Clark).

1179. Knoop, W. **Die Massnahmen des sächsischen Ministeriums für Volksbildung zur Erfassung der Hochschulreife.** (The tests of the Saxon Ministry for Popular Education for the estimation of readiness for high school.) *Industr. Psychotech.*, 1935, 12, 15-25.—Typical questions and answers of tests designed to determine the fitness for matriculation of candidates for high school, results of related studies, and a criticism of the present method of determining fitness, together with the social implications of measured fitness, are presented.—R. M. Bellows (U. S. E. S., Div. Standards and Research).

1180. Kulp, D. H. **The rôle of purpose in achievement.** *J. appl. Psychol.*, 1935, 19, 478-489.—Data were obtained with a group of 75 students on purpose in taking a course in clinical sociology. Comparisons were made between initial and final test scores, time spent in reading, general intelligence, and various purposes. Students whose purposes for taking the course are allied to genuinely scholastic aims tend to higher achievement and greater improvement.—R. S. Schultz (Psychological Corporation).

1181. Leavell, U. W., & Hollister, G. E. **Social studies vocabulary difficulties in the upper grades.** *Peabody J. Educ.*, 1935, 12, 287-293.—A group of 307 pupils in grades seven and eight listed 3733 difficult words found in social studies; only 771 were common to both grades. The Horn and Thorndike lists omit respectively 60.9 and 46.8% of these words. The results also show an r of .69 between vocabulary ability and intelligence in both grade groups.—N. B. Cuff (Eastern Kentucky).

1182. Leonard, J. P. **Teacher participation in recent state curriculum programs.** *J. educ. Res.*, 1935, 29, 117-126.—Reports received from 14 states in regard to the extent and character of teacher participation in the formulation of curriculum programs indicates that state departments are seeking to enlist all teachers in this type of project.—S. W. Fernberger (Pennsylvania).

1183. Loomis, A. K. **Needed research in the curriculum.** *J. educ. Res.*, 1935, 29, 126-130.—Statement of propositions which define the general field of curriculum research and the methods to be used. Such psychological factors as the nature and abilities of the learner and the problems of learning become the basis for this problem.—S. W. Fernberger (Pennsylvania).

1184. Lord, E. **Teaching as a diagnostic aid.** *Psychol. Bull.*, 1935, 32, 685.—Abstract.—J. F. Dashiell (North Carolina).

1185. Maney, C. A. **Kentucky college graduates face the future.** *Kentucky Person. Bull.*, 1935, No. 15.—The vocational status of 395 men and 253 women graduates of seven colleges was compared with that of the southern states as a whole and the

- entire country. The Kentucky college graduates fared better than the others. The lack of opportunity facing the college graduate when he is given his degree should be studied.—*R. Goldman* (Clark).
1186. Meng, H. *Zur Psychologie der Strafe und des Strafens*. (The psychology of punishment and punishing.) *Z. psychoanal. Pädag.*, 1934, 8, 262-270.—A reprint of the third chapter of Meng's book *Strafen und Erziehen*, published by Huber in Bern.—*H. Beaumont* (Kentucky).
1187. Myers, V. C. Who offers what in the psychology of education? *Peabody Reflector*, 1935, 8, 54-64.—A study of the catalogs of 50 universities, 26 liberal arts colleges, and 100 teachers' colleges, widely distributed, indicates that the psychology of education is a subject of outstanding importance in all three types of schools. General psychology is considered of less importance by teachers' colleges than by other colleges. Guidance, mental health and measurement are accepted by a majority of the schools.—*N. B. Cuff* (Eastern Kentucky).
1188. Nash, J. B. When to school. *J. except. Child.*, 1935, 2, 44-46.—Most modern schools tend to require use of the fine-muscle groups too early in the life of the child. The early school years should be limited to the broad, fundamental muscle groups, and formal education should wait upon maturation of the neuro-muscular system before requiring learning in its restricted sense. Too early use of the accessory muscle groups is fraught with great danger to the subsequent learning efficiency and mental hygiene of the individual child.—*L. A. Averill* (Worcester Teachers College).
1189. Nimkoff, M. F. Counseling students on premarital problems. A function of the sociologist. *Ment. Hyg.*, N. Y., 1935, 19, 573-585.—The need for counseling students on family problems is demonstrated. The author states that the sociologist is best qualified to conduct such a course, inasmuch as he is able to interpret the meaning of social situations for human personality. The sociologist needs the assistance of the psychiatrist with problems involving personality disorders. A specific case in which the sociologist was of aid is cited. The length of time needed in the treatment of these cases is pointed out.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).
1190. Oppenheimer, J. J. Progress report on the experimental freshman plan in the college of liberal arts. *Kentucky Person. Bull.*, 1935, No. 15.—Students admitted without graduation from high school did as well as the regularly admitted students in the second school semester when they carried a load as great as that of the other students. A second group of students have been admitted on the same basis.—*R. Goldman* (Clark).
1191. Oppenheimer, J. J., & Detchen, L. Louisville seniors rate college practices. *Kentucky Person. Bull.*, 1935, No. 15.—The majority opinion on certain topics is listed regarding changes in curriculum offerings and innovations in teaching procedures which are being made in the reorganization of the college of liberal arts at the University of Louisville.—*R. Goldman* (Clark).
1192. Oppenheimer, J. J., & Detchen, L. Selective admission to the senior college of liberal arts. *Kentucky Person. Bull.*, 1935, No. 15.—The criteria for admitting students and the status of each on the basis of the degree to which he meets the criteria are given. The plan is not in its final stage; the only conclusion is that it draws lines of distinction among the groups in their junior year.—*R. Goldman* (Clark).
1193. Portenier, L. G. Personality factors in the achievement of high school pupils. *Psychol. Bull.*, 1935, 32, 707.—Abstract.—*J. F. Dashiell* (North Carolina).
1194. Roberts, W. H. We study life. *J. higher Educ.*, 1935, 6, 376-381.—The professor presents a running outline story of his course on the development of personality or developmental psychology. The general plan of the course is genetic development, with continued emphasis upon the adjustment of the individual student in his own life activity.—*R. A. Brotemarkle* (Pennsylvania).
1195. Rothney, J. W. M. The first course in psychology as a guidance project. *J. appl. Psychol.*, 1935, 19, 399-404.—Problems of self-discovery, occupational information, job wisdom and social understanding can be approached through a first course in psychology in a series of topics such as intelligence; reaction time; learning; sense-organ efficiency; musical aptitudes; efficiency; and emotions, feelings, and personality.—*R. S. Schultz* (Psychological Corporation).
1196. Sears, J. B. The school survey as a means of training field workers in education. *J. educ. Res.*, 1935, 29, 138-143.—If such training is to be undertaken as a partial function or as a by-product of a survey it should be planned in advance. Training methods and aids are indicated.—*S. W. Fernberger* (Pennsylvania).
1197. Spiller, G. The place of interlearning in education. *J. educ. Sociol.*, 1935, 9, 4-14.—"With the recognition of the paramount importance of the interlearning factor in human life and of the extremely modest and comparatively equal innate mental capacity of human beings, it becomes self-evident that the individualistic educational psychology of today is basically inadequate. It should discard therefore its genetic explanation of the notable mental differences and changes in human individuals, societies, and epochs, and so allow for the profound influence of interlearning on the development and status of the innate mental constituents common to human beings."—*F. D. McTeer* (Wayne University).
1198. Stalnaker, J. M., & Kurath, W. A comparison of two types of foreign language vocabulary test. *J. educ. Psychol.*, 1935, 26, 435-442.—A best-answer recognition test and a context recall test were administered to 184 students of elementary German. The respective reliabilities (split-half) of the tests were .95 and .97, the difference being significant. The validities of the two tests were determined by correlating the scores with teachers' estimates. The

context test correlated .629, and the best-answer test correlated .595. Further evidence is given for the conclusion that the two tests of German vocabulary measure essentially the same ability.—*A. W. Melton* (Missouri).

1199. **Strang, R.** Research on technics used in the study of individuals. *Teach. Coll. Rec.*, 1935, 37, 100-110.—The following instruments for research in guidance are discussed: standardized tests and records, observation, rating, interview, and case study.—*J. M. Stalnaker* (Chicago).

1200. **Wagner, M. E., & Strabel, E.** Homogeneous grouping as a means of improving the prediction of academic performance. *J. appl. Psychol.*, 1935, 19, 426-446.—High school regents examination average and college freshman-sophomore average correlate significantly higher for a group of 750 students at the University of Buffalo when factors such as location of high school, sex, amount of regents examination repetition, amount of foreign language spoken in the home, age at high school graduation, position among siblings and college degree sought are isolated.—*R. S. Schultz* (Psychological Corporation).

1201. **Wallon, H.** L'étude du caractère chez l'enfant et l'orientation professionnelle. (A study of character in children and professional orientation.) *Rev. phil.*, 1935, 60, 304-320.—The performance of the same task by different persons who have equal professional ability may be very different because of a lack of harmony between the subjects' tastes and temperament and the demands of this special skill, since the entire personality takes part in each manifestation of activity. Thus it is inevitable that the individual character of each person is called into play. The author discusses the difficulties involved in the study of character and describes the various methods used in an effort to reach a definition, methods such as tests and questionnaires, all of which are still imperfect. These methods must be perfected, for professional orientation cannot become satisfactory until it is able to take account of both the possible aptitudes of each person and the character traits which affect in varying degree the achievement of these aptitudes.—*M. H. Piéron* (Sorbonne).

1202. **Williams, L. V.** The need for the development of creative abilities among negro students. *J. Negro Educ.*, 1935, 4, 500-504.—Some of the principles underlying a progressive program of creative education and how it should affect negro students are discussed. The need for a new and broader conception of the creative act is stressed.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

1203. **Williamson, E. G., & Darley, J. G.** Trends in the occupational choices of high school seniors. *J. appl. Psychol.*, 1935, 19, 361-370.—High school seniors for the years 1929 to 1933 inclusive in Minnesota were asked to state in their own words "The name of the occupation or profession you plan to follow as your life work." The percentage indicating no choice ranged from 20.7 to 39.9. A classification of occupational choices according to the Brüssel revision of the Barr-Taussig scale of occupational

intelligence showed a concentration in the high professional, executive and large business occupations for men and the low professional, business, technical and commercial occupations for women. There seems to be a decrease in choices among men for the professions and executive positions, particularly engineering, through the years 1929 to 1933, and an increase of choices for agriculture, forestry and skilled trades. "Concentration of choices in a few traditional categories continues to exist, in spite of the fact that such concentration is not in agreement with known facts about corresponding abilities, interests and opportunities."—*R. S. Schultz* (Psychological Corporation).

1204. **Wilson, W. R.** Teaching, research, and academic advancement. *Psychol. Bull.*, 1935, 32, 549.—Abstract.—*J. F. Dashiell* (North Carolina).

1205. **Wrenn, C. G.** Aiding the fit. *J. higher Educ.*, 1935, 6, 357-363.—Three studies indicate the need of guidance and give suggestions for aid to students of high intelligence. On the basis of percentile standing in three standard psychological tests the upper 5% of 10,000 junior college students reveal no problem in vocational choice or intellectual ability for vocation, but from the point of view of personality they have a greater than average tendency toward "self-sufficiency" and a smaller "dominance" index. 180 Stanford students chosen from the upper 10% and lower 20% on the basis of the Thorndike Intelligence Examination checked a list of 69 habits and attitudes of work. Students high in Thorndike scores and scholastic results practice habits of study psychologically more desirable. Students low in Thorndike scores and high in scholarship attained the latter by more careful use of their time and memorizing of material. Students with high Thorndike scores and low scholarship results are slow readers, poor in analysis and grasp of material. 170 Stanford freshmen with College Aptitude Test scores in the upper quarter were given the Iowa Silent Reading Test and studied on the basis of the first two quarter grades. 67% of those falling below their scholarship expectancy were below the upper quintile in reading rate, while only 34% of those up to their scholarship expectancy were below the upper quintile in reading rate. The author suggests a program of personnel activities with students of superior mental ability.—*R. A. Brotemarkle* (Pennsylvania).

[See also abstracts 775, 1069, 1073, 1075, 1084, 1123, 1245, 1252.]

BIOMETRY AND STATISTICS

1206. **Arkin, H., & others.** Statistical methods, as applied to economics, business, education, social and physical sciences, etc. (Rev. ed.) New York: Barnes & Noble, 1935. Pp. 275. \$1.50.—*R. R. Willoughby* (Clark).

1207. **Biegeleisen, B.** Metody statystyczne w psychologii. (Statistical methods in psychology.) Warsaw-Lwów: Książnica-Atlas, 1935. Pp. viii + 304 + 22. 9 zloty.—This is a textbook designed for psychologists, psychotechnicians, and pedagogues. It deals with the simpler statistical methods that do

not require a knowledge of higher mathematics. In addition to the general introduction, it discusses in 10 chapters the following problems: (1) collection and classification of data; (2) averages; (3) dispersion; (4) ranks and percentages; (5) normal curve and distribution; (6) interpretation of test data; (7, 8) correlation; (9) errors in measurement; (10) some applications of correlation to test methods. This textbook contains numerous examples, exercises, charts, and tables.—*L. J. Bykowski (Poznań).*

1208. **Byrne, L.** A theory of validation for derivative specifications and check lists. *Ann. math. Statist.*, 1935, 6, 146-157.—The writer goes into some detail on the theory of preparing valid check lists and specifications. The term check list is somewhat misleading, as it may include derivative specifications that embrace a large number of specific determinates; thus in certain cases monographs and even books which are summarizations of primary data might fall in this classification.—*J. W. Dunlap (Fordham).*

1209. **Edgerton, H. A., & Valentine, W. L.** A factor analysis of learning data. *Psychol. Bull.*, 1935, 32, 719-720.—Abstract.—*J. F. Dashiell (North Carolina).*

1210. **Hendricks, W. A.** Analysis of variance considered as an application of simple error theory. *Ann. math. Statist.*, 1935, 6, 117-126.—A simple presentation of certain theoretical considerations upon which the method of analysis of variance is based.—*J. W. Dunlap (Fordham).*

1211. **Kelley, T. L.** The analysis of a complex of mental measurements into components. *Psychol. Bull.*, 1935, 32, 718-719.—Abstract.—*J. F. Dashiell (North Carolina).*

1212. **Leeper, R.** A criticism of R. A. Fisher's treatment of the problem of the reliability of differences between means. *Psychol. Bull.*, 1935, 32, 717-718.—Abstract.—*J. F. Dashiell (North Carolina).*

1213. **Price, B.** A proposed method for the direct measurement of correlation. *Science*, 1935, 82, 497-498.—A method is proposed whereby the physical determination of the correlation coefficient can be obtained if Yule's Σ_1 and Σ_2 can be measured. The apparatus would involve rotating axes which had angles that could be varied until the maximum or minimum rotation had been noted. The relations are:

$$\Sigma_1^2 + \Sigma_2^2 = \sigma_1^2 + \sigma_2^2$$

$$r^2 = 1 - \frac{\Sigma_1^2 \Sigma_2^2}{\sigma_1^2 \sigma_2^2}$$

—*R. Goldman (Clark).*

1214. **Rupp, H., & Zapan, G.** Über die Zuverlässigkeit von Rangplätzen. (The reliability of ranks.) *Psychotech. Z.*, 1935, 10, 1-22.—If we have groups of individuals whose capacity has been expressed in ranks, may we assume that all ranks have the same reliability? In the first group of studies 70 high-school pupils were given 11 different kinds of manual tasks each of which was performed 10 times. The individuals were then ranked according to their merit on each test and for each repetition of a given test. The average rank was considered

the standard for comparison and the average deviation the measure of reliability. In the second study the author employed the same method as in the first, but he used 31 students and 12 different school subjects for the tests. The general results indicate that an individual's average rank varied greatly from task to task, and that the reliability of the ranks within a group of ranks varied also. The reliability of a rank increased with the reliability or ease with which performance was measurable. The ranks at the extremes of a distribution seem to be more reliable than those around the average, due to the fact that either very good or very poor performance is more easily determined than average performance.—*C. Burri (Chicago).*

1215. **Strecker, G.** On evaluating a coefficient of partial correlation. *Ann. math. Statist.*, 1935, 6, 143-145.—*J. W. Dunlap (Fordham).*

1216. **Toops, H. A.** A unique coding system. *Psychol. Bull.*, 1935, 32, 720.—Abstract.—*J. F. Dashiell (North Carolina).*

1217. **Wrono, J.** Współczynnik zależności cech niewymierzalnych. (The coefficient of dependence between unmeasurable traits.) *Psychotechnika*, 1935, 9, 28-33.—The author gives a new formula for computing the coefficient of dependence between two unmeasurable traits A and B : $S = \frac{4(ad-bc)}{n^2}$. Here a signifies the number of persons who possess traits A and B ; b the number of persons who possess A but not B ; c the number of persons who possess B but not A ; and d the number who have neither A nor B . The author analyzes this formula and demonstrates with the help of examples that it is more valuable than certain other formulas.—*M. Dybowski (Poznań).*

[See also abstracts 706, 929.]

MENTAL TESTS

1218. **Beck, S. J.** Psychological processes, and traits, in Rorschach findings. *Psychol. Bull.*, 1935, 32, 683-684.—Abstract.—*J. F. Dashiell (North Carolina).*

1219. **Candee, B.** A problem in the use of present psychological tests. *Psychol. Bull.*, 1935, 32, 683.—Abstract.—*J. F. Dashiell (North Carolina).*

1220. **Doscher, M. E.** The correlation between the Randall's Island performance series and the Kuhlmann-Binet. *J. appl. Psychol.*, 1935, 19, 493-495.—Samples of 77 and 200 cases taken at different times yield correlations of .89 and .90 between the two tests.—*R. S. Schultz (Psychological Corporation).*

1221. **Grove, W. R.** An experimental study of the Kent-Shakow industrial form board series. *J. appl. Psychol.*, 1935, 19, 467-473.—Results are presented on a group of 200 adult white male prisoners on the form board test. Consideration is given to various scoring methods and to comparisons with Binet mental age and scores on the Illinois general intelligence test. A separate score of parts of the test is recommended in preference to a total time score.—*R. S. Schultz (Psychological Corporation).*

1222. **Marinesco, G., Kreindler, A., & Copelmann, L.** *Le test de Rorschach et la dynamique de l'écorce cérébrale d'après les lois des réflexes conditionnels de Pavlov.* (The Rorschach test and the dynamics of the cerebral cortex according to Pavlov's laws of the conditioned reflex.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 614-623.—The interpretation of the Rorschach figures as a whole is due to an irradiation in the cerebral cortex. The detailed interpretations are due to a concentration in the cortex. Color interpretations can be made only when the subcortical centers are excitable. In cases of post-encephalitis these are absent. Cyclothymics give more color responses than schizophrenics. Kinesthetic images are due to an irradiation toward the motor centers. A proper proportion of whole and detailed interpretations suggests a proper balance of irradiation and concentration in the cerebral cortex. Manics tend to give only whole interpretations with kinesthetic elements, indicating a great irradiation. Melancholics, on the other hand, give predominantly detailed interpretations with practically no movements. In epileptics kinesthetic responses are more frequent before seizures than afterwards.—*M. B. Mitchell* (New Hampshire State Hospital).

1223. **Schneider, E.** *Der Rorschachsche Formdeuteversuch.* (The Rorschach test.) *Industr. Psychotech.*, 1935, 12, 223-230.—The feasibility of applying the Rorschach psychodiagnostic technique to the problem of measurement of vocational aptitude is treated.—*R. M. Bellows* (U. S. E. S., Div. Standards and Research).

1224. **Wells, F. L., & Hylan, N. W.** *Psychometric practice in adults of superior intelligence.* *Amer. J. Orthopsychiat.*, 1935, 5, 286-301.—In order to study the relation between practice gain and the level of the function practiced, 10 subjects in the upper 5% of Army Alpha scores practiced a group of 13 psychometric procedures over a period of 30 weeks. "At the given level of mental capacity, practice gain in the rotated 5 forms of alpha was comparable to practice in the unchanged Otis. Practice in a single form of alpha gave at least as much gain to a novel form of alpha, as did equivalent practice with the 5 rotated alpha forms." Properties of the alpha sub-tests, individual differences in susceptibility to error, and their relations to practice are discussed.—*J. McV. Hunt* (Nebraska).

1225. **Zabludowska, R.** *Test siatek sześcianków.* (Cubelet contour test.) *Psychotechnika*, 1935, 9, 1-8.—This test, devised by Baley, is designed to investigate spatial memory or imagination. Each of the persons examined receives in succession seven cubelets, each made of a single piece of paper appropriately folded, the edges being sewn together with thread. The examinee takes a cubelet in his hands and studies it. He then draws on paper from memory a flat picture representing that cubelet. His drawings of the seven cubelets are appraised by points which take into account both the correctness of the drawings and the amount of time given to them. From the introspections of two persons, two different modes

of solving the test were discovered, viz., by "silhouette" and by "partition."—*M. Dybowski* (Poznan).
[See also abstracts 714, 837, 1128, 1227.]

CHILDHOOD AND ADOLESCENCE

1226. **Baumgarten, F.** *Un test pour l'examen des goûts des enfants et des adultes.* (A test for examining preferences of children and adults.) *Travail hum.*, 1935, 3, 283-296.—The test consisted of selecting from a list of books the ones which the subject would like to read or possess. The test may also be used to disclose complexes by asking the subject why he chose a particular book. Girls show a slightly greater dispersion of interests than boys. The dispersion decreases with age. The boys' principal interest was in adventure and the girls' in family stories, such as biography. Book titles referring to a vocation may be introduced to diagnose vocational interests.—*H. E. Burt* (Ohio State).

1227. **Bayley, N.** *A cumulative study of environmental correlates of intelligence.* *Psychol. Bull.*, 1935, 32, 702.—Abstract.—*J. F. Dashiell* (North Carolina).

1228. **Brander, T.** *Existerar det ett samband mellan födelsevikt och intelligenskvot hos för tidigt födda barn?* (Does a relation exist between weight at birth and intelligence quotient in prematurely born children?) *Finska LäkSällsk. Handl.*, 1935, 77, 69-80.—Following a general historical summary of the problem, the writer gives detailed results of his own investigation of 376 prematurely born children now aged 7-15. The IQ's are based on Swedish and Finnish translations of the Stanford Revision of the Binet-Simon. The main result is that the lower the median birth weight, the lower the IQ, and that this relationship is linear. Bibliography and announcement that the article will be published also in German.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

1229. **Bühler, K.** *Abriß der geistigen Entwicklung des Kindes.* (Outline of the mental development of the child.) (6th ed.) Leipzig: Quelle & Meyer, 1935. Pp. 158. RM. 1.80.—*R. R. Willoughby* (Clark).

1230. **Childers, A. T.** *Hyper-activity in children having behavior disorders.* *Amer. J. Orthopsychiat.*, 1935, 5, 227-243.—While the literature on hyper-activity in children has mostly to do with post-encephalitic conditions and other neurological syndromes, the experience of this author indicates that only a minor proportion of these cases may be related directly to definite neurological disease. A social and medical study of 30 hyper-active children indicated that a multitude of factors may be operative, not the least of which is insecurity. A comparison of 57 cases with 500 cases of general behavior disorders uncovered no physical factors related specifically to hyper-activity. Treatment consists in giving the child as much security as possible, putting him into a regime of curtailed activities, and emphasizing regularity. Suppression should be avoided.—*J. McV. Hunt* (Nebraska).

1231. Daniels, E. E., & Maudry, M. Die Entwicklung der Abwehrreaktionen auf Störungsreize. (The development of defense reactions to noxious stimuli.) *Z. Psychol.*, 1935, 135, 259-287.—To 50 children between the ages of 1 and 14 days and to 10 children at each month up to 8 months (a total of 130 subjects) the following four stimuli were presented: pressure of index finger from below against chin, pressure of index against chin from above, closing the nostrils by pressure with two fingers, slight pressure on upper part of face by holding cloth over it. These stimuli called forth increased activity, which was primarily determined by the most frequent normal movements at each age level, but also included directed movements aimed at removal of the noxious stimulus. Four levels could be distinguished: failure of any directed movement; flight; inadequate defense; adequate defense. The authors point out that Sherman in similar experiments found coordination to occur during the first weeks of life. This they attribute to his failure adequately to control his experiments and to distinguish between directed and coordinated movements. These early movements, involving a touching of the noxious stimulus, have been found to be purely accidental in the present investigation.—H. Beaumont (Kentucky).
1232. Dewey, E. Behavior development in infants. New York: Columbia Univ. Press, 1935. Pp. viii + 321. \$3.50.—The volume is a survey of the outstanding trends in the factual literature of the subject from 1920 to 1934. The five parts treat in succession: growth processes; behavior of the human fetus; neonatal behavior; behavior during infancy; summary and conclusions. The first part includes a statement of the behavioristic and Gestalt theories of behavior development, the evidence from biology and neurology, and correlation of structure and function from animal studies. The second and third parts cover chiefly responses to sensory stimulation and motor development; the fourth part adds to these material on problem solving and language. Bibliography of 216 items and subject index.—R. R. Willoughby (Clark).
1233. Dimock, H. S. A research in adolescence. I. Pubescence and physical growth. *Child Develpm.*, 1935, 6, 177-195.—Measurements taken over a period of two years on height, weight, physical strength, and motor ability of 200 boys, age 12 to 16 years, indicate that "the differences in the height and weight of boys of the same chronological age but of different pubescent status are approximately as great as those between boys two years different in age but of the same pubescent status. The most rapid growth in height and weight comes in the year during which the boy passes from pubescence to post-pubescence." "The most rapid development of strength takes place during the year which follows the attainment of post-pubescence." "Motor ability increases throughout adolescence, but less rapidly in the period during which pubescence is reached than during a similar period in the pre-pubescent status or following puberty."—F. D. McTeer (Wayne University).
1234. Dollard, J. A method for the sociological study of infancy and preschool childhood. *J. educ. Sociol.*, 1935, 9, 88-97.—It is suggested that the mother should observe her child in the home situation in order to acquire data on his social and emotional growth under the influence of family contacts. Opportunity would be provided for the recording of her observations and for frequent consultations with the research sociologist to the end that she might become gradually more skilled in observing. Advantages and limitations of this research method are discussed.—F. D. McTeer (Wayne University).
1235. Dory, A. Das Milieu und die Psychologie des Schifferkindes in seiner Eigenart. (The specific environment and the psychology of children of sailors.) München: Kösel & Pustet, 1935. Pp. 136. RM. 3.—The author discusses the personal, cultural, and natural environment of the children of sailors, their development and life history, racial-biological qualities, hygienic conditions, spiritual interests, school work, volitional, emotional and affective life, and character.—A. Dory (Ruhrt).
1236. Engel, P. Über die teilinhaltliche Beachtung von Farbe und Form. Untersuchung an 800 Schulkindern. (On the proportionate interest in color and form. Experiment with 800 pupils.) *Z. pädag. Psychol.*, 1935, 36, 202-214; 241-251.—The findings of D. Katz, H. Volkelt, Minna Eljasch, and others are set forth. The author's experiments first dealt with animals, then with children under 2 years of age, from 2 to 6 years of age, and from 6 to 14 years of age. Children under 3½ years of age almost without exception choose on the basis of form. After this age a strong predilection for color begins to manifest itself. In the lower primary grades 19.5% of the pupils choose by form, 70% by color. The largest percentage of form-reactors were of the highest intelligence type, the largest percentage of color-reactors were of the lowest intelligence type.—S. W. Downs (Berkeley, Calif.).
1237. Flory, C. D. Sex differences in skeletal development. *Child Develpm.*, 1935, 6, 205-212.—Analysis of more than 6500 roentgenograms of the right hands of subjects from birth to maturity indicate that in skeletal development "girls are ahead of boys at birth; they are about one year ahead at school age; they are approximately one and a half years ahead at age nine; and about two years ahead of boys at the average age for the onset of puberty."—F. D. McTeer (Wayne University).
1238. Foster, R. G. Objective methods of sociological research generally applicable to child development studies. *J. educ. Sociol.*, 1935, 9, 79-87.—Various methods of sociological research are enumerated and classified. The desirability of formulating a definite field of research in the sociology of childhood is presented along with suggestions for a project to study the demands which organized society, as exemplified by the school, makes upon the child.—F. D. McTeer (Wayne University).
1239. Frank, L. K. The society for research in child development. *J. educ. Sociol.*, 1935, 9, 67-71.—

The Society for Research in Child Development was organized in November, 1934, to promote coordination and mutual assistance in the studies of children now being carried on independently in the fields of anatomy, pediatrics, nutrition, biochemistry, sociology, psychiatry, psychology, and biometrics.—*F. D. McTeer* (Wayne University).

1240. **Freeman, F. N.** The intellectual growth of children as indicated by repeated tests. *Psychol. Bull.*, 1935, 32, 706-707.—Abstract.—*J. F. Dashiell* (North Carolina).

1241. **Halverson, H. M.** Complications of the grasping reaction of young infants. *Psychol. Bull.*, 1935, 32, 692.—Abstract.—*J. F. Dashiell* (North Carolina).

1242. **Hardy, M. C.** Some evidence of an inverse relation between health history and behavior adjustments during childhood. *Psychol. Bull.*, 1935, 32, 727-728.—Abstract.—*J. F. Dashiell* (North Carolina).

1243. **Heider, F.** The role of language in the psychological situation of the child: a comparative study of free play among deaf and among hearing children of pre-school ages. *Psychol. Bull.*, 1935, 32, 728-729.—Abstract.—*J. F. Dashiell* (North Carolina).

1244. **Johnson, M. W.** The influence of verbal directions upon behavior. *Child Developm.*, 1935, 6, 196-204.—Controlled individual observations of 76 young children when confronted with a series of simple tasks, such as cutting a paper circle, dressing a doll, and untying a knot, show that the children achieve a greater percentage of success in the experimental group when they were given "more positive, unhurried, specific and encouraging types of directions, as compared with the successes of the control children who were given the more negative, general, hurried, and discouraging verbal directions."—*F. D. McTeer* (Wayne University).

1245. **Kirkpatrick, M., & Lodge, T.** Some factors in truancy. *Ment. Hyg.*, N. Y., 1935, 19, 610-618.—Until the school curriculum has been changed to fit the needs of the child the juvenile court is attempting in vain to deal with the problem of truancy. The writer found that nearly all of the confirmed truants (752 cases appearing officially in Cuyahoga County Juvenile Court during the years 1931-1933) had been misplaced in the school grades in regard to their chronological age, mental age, or both. It is pointed out that these factors have played an important role in forming the child's unwholesome attitude toward school. The writer recognizes the difficulty school authorities will have in placing the dull child where he belongs in regard to life age and mental age.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

1246. **Koch, H. L.** The modification of unsocialness in preschool children. *Psychol. Bull.*, 1935, 32, 700-701.—Abstract.—*J. F. Dashiell* (North Carolina).

1247. **Korczak, J., & Poznańska, A.** Plebiscyty życzliwości i niechęci. (Plebiscites on good-will and aversion.) *Polsk. Arch. Psychol.*, 1933-4, 6, 241-262.

—Among children from 4 to 10 years old, good-will toward one another prevails over aversion, while indifference is almost unknown to children. With increasing age, however, judgments as to their companions become sharper.—*S. Blachowski* (Poznań).

1248. **Loomis, A. M.** A few critical points in applying objective sociological methods to the study of child development. *J. educ. Sociol.*, 1935, 9, 98-104.—While the objective methods of sociological research, particularly as exemplified in observational studies of social behavior and in environmental surveys, have contributed much to an understanding of "the sorts of behavior that tend to occur at given age levels in situations having known characteristics," nevertheless certain pitfalls are inherent in the too wide application of objective techniques, namely, the use of quantitative methods on subjective data, the use of statistics to compensate for doubtful assumptions, the formulation of generalizations from too few cases, and the attempted statistical control of too complex social situations.—*F. D. McTeer* (Wayne University).

1249. **McCarthy, D.** A preliminary report on a new articulation test for young children. *Psychol. Bull.*, 1935, 32, 699.—Abstract.—*J. F. Dashiell* (North Carolina).

1250. **McGeoch, G. O.** Reminiscence in maze learning by kindergarten children. *Psychol. Bull.*, 1935, 32, 700.—Abstract.—*J. F. Dashiell* (North Carolina).

1251. **Meltzer, H.** Children's attitudes to parents. *Amer. J. Orthopsychiat.*, 1935, 5, 244-265.—In order to obtain the attitudes toward parents of an adequate sampling of children, 150 children, selected to be representative in terms economic, intellectual, social, and sexual, were examined by the free association interview. This method consists in giving the child instructions for "loud thinking" about any word or idea given. He is told, after confidence has been established, to speak out the first 10 ideas that come to him. Responses to the words *father* and *mother* constituted the data of the study. A method of evaluating these responses was selected which yielded satisfactory results from the standpoint of validity and reliability. The evidence gleaned concerns: (1) children's notions of parents, (2) descriptive nature of children's reactions, (3) nature of children's feeling reactions, (4) parental dependence in children, (5) repression and expression in children's reactions to parents, and (6) social dimensions of children's reactions to parents.—*J. McV. Hunt* (Nebraska).

1252. **Michaels, J. J.** The heilpädagogical station of the children's clinic at the University of Vienna. *Amer. J. Orthopsychiat.*, 1935, 5, 266-275.—This paper proposes "to acquaint child guidance workers with the somewhat unique Lazar Clinic of Heilpädagogie. . . Founded by Erwin Lazar in 1911 as a part of the Clinic for Children at the University of Vienna, it attempts to combine medicine and pedagogy." The methods here are highly personal and characterized by an absence of apparatus, statistics, formulae and slogans. In contrast to the

test-situation made to reveal special reactions, the staff members are content to wait for situations which the children create, thus producing their own spontaneous reactions. The child is observed on awakening, at meal time, during gymnastics, school, play, and sleep. The staff then attempts to evaluate all the participating factors and to make an intuitive and pedagogic diagnosis according to the specific child and not according to the categories of medicine, neurology, psychology, and psychiatry.—*J. McV. Hunt* (Nebraska).

1253. Mourachowsky, I. *La motricité faciale chez les enfants en bas âge d'après l'échelle métrique de L. Kwinté*. (Facial motility in young infants according to the metric scale of L. Kwinté.) *Arch. Psychol., Genève*, 1934, 24, 338-349.—After some consideration of the motor development of young children, the author presents her studies of 104 children of 2-3.5 years of age using the metric scale of mimic psychomotility devised by L. Kwinté. This scale includes 26 mimic movements which involve different groups of facial muscles, movements which are ranked in terms of difficulty for ages 4-16 years. The tables give the average number of movements made by the young child and the percentage of success obtained on each of the 26 tests. There is a positive correlation between active mimic psychomotility and mental development.—*M. R. Lambercier* (Geneva).

1254. Myers, G. C. *The social problem of the gifted child*. *J. except. Child.*, 1935, 2, 39-43.—Takes issue with the position of Terman, Goddard, and others who have asserted that the child of high IQ is not socially maladjusted, or in grave danger of becoming so. Asserts that the very bright child is extremely likely to be a personality and behavior problem, and states that this is the feeling of most teachers and associates of such children. The difficulty of socializing the gifted child lies in the fact that he is treated by parents and teachers as "different" and superior; that he shuns those of his own age and play level in order to experience intellectual stimulation among those older, and so becomes still more socially maladjusted; and that he seeks his satisfactions by turning aside from an uncomfortable play situation to revel in the alluring things which he can do by himself. The author questions the desirability either of segregating the bright child in school, since segregation increases his feeling of superiority, or of skipping him past some of the regular grades, since such a device is still more disastrous to his personality development and socialization. Recommends that the gifted child proceed at his own speed in the regular class.—*L. A. Averill* (Worcester Teachers College).

1255. Oldham, E. V. *The socio-economic status and personality of negro adolescent girls*. *J. Negro Educ.*, 1935, 4, 514-522.—This study attempts to discover the relationship between socio-economic status of negro adolescent girls and certain personality traits which are observable in the teacher-student relationship. The study was conducted in four public schools in the "near" South Side of Chicago. Schools were chosen to represent different

social levels; 319 cases were studied. In addition to a battery of intelligence tests and personality tests and socio-economic status, a schedule for directed observation of behavior was used. More than half the pupils showed no outstanding behavior and were therefore not rated by the teachers. Only a small percentage showed overt reactions which were instances of anti-social traits. A larger percentage of "non-conformists" showed outstanding favorable behavior. There was found to be nearly as much unfavorable behavior at the high level as at the low, but fewer individuals were involved at the high level. The coefficients of correlation are low and indicate no significant relationship.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.).

1256. Orgel, S. Z., & Tuckman, J. *Nicknames of institutional children*. *Amer. J. Orthopsychiat.*, 1935, 5, 276-285.—In view of the importance of names historically and among primitive peoples and the fact that the nickname is widely used as a means of indicating approval or disapproval, this study of the nicknames of 235 boys and 75 girls living at the Hebrew Sheltering Guardian Society was made. The nicknames and the reasons for selection were collected during psychiatric interviews. They are found to serve five functions: approval, punishment, depreciation, revenge, and therapy. The normal group, both boys and girls, uses affectionate nicknames and less objectionable names to a greater degree, and derogatory nicknames to a lesser degree than does the problem group. Excepting the nicknames of the affectionate form, the nickname is a source of much unhappiness to the nicknamed.—*J. McV. Hunt* (Nebraska).

1257. Orton, S. T. *The development of speech understanding in relation to intelligence*. *Child Res. Clin. Ser.*, 1935, 1, No. 6. Pp. 14.—"One might say that intelligence, as we recognize that intangible and very difficult subject, is merely the soil in which the language function can be grown." Hearing is obviously the first requirement for the development of spoken language. There are two types of masked hearing defects which are not obvious to superficial examination. The first is "high frequency" deafness or better "regional" deafness (within a certain region of the hearing spectrum). Enough of the skeleton of the word is heard so that meaning can be attached to it, so that the hearing defect does not interfere with the general intellectual development. "Congenital word deafness" is the second type of deafness which is important from the standpoint of the development of intelligence. The best approach to this problem lies in retraining, beginning with the smallest possible unit which can be handled.—*R. Goldman* (Clark).

1258. Pawlowski, F., & Warczak, A. *Badania z zakresu uzdolnienia melodyjnego dzieci*. (Investigations on the musical capacity of children.) *Polish Arch. Psychol.*, 1933-4, 6, 153-162.—Children between 7 and 15 years of age were examined as to their ability to repeat a scale they had heard and to recognize variations from that scale. The chief results are the following: (1) children apprehend the scale as a

structure and are particularly susceptible as to the third, fifth, and eighth notes; (2) the feeling for tonality, understanding of the fundamental tone, and ability to grasp the structure of the scale increase with age; up to 10 years of age boys show better (but later worse) results than girls.—*S. Blachowski* (Poznań).

1259. Pratt, K. C. The organization of behavior in the newborn infant. *Psychol. Bull.*, 1935, 32, 692-693.—Abstract.—*J. F. Dashiell* (North Carolina).

1260. Pyles, M. K., Stoltz, H. R., & MacFarland, J. W. The accuracy of mothers' reports on birth and developmental data. *Child Developm.*, 1935, 6, 165-176.—"In a representative sample of 252 children living in a superior urban community, comparisons were made between mothers' reports of their children's early development at a 21-month physical examination, and primary records taken at birth and during the first year." "The results show a slight but general tendency for mothers to forget some of the difficulties of rearing children: mothers tend to forget the illnesses and disturbances suffered during pregnancy; they tend to forget the injuries received at the birth of the child and use of instruments at that time; slight illnesses of the child during infancy are forgotten; and finally, mothers tend to remember that their children walk and had their first teeth at an earlier age than the primary records indicate."—*F. D. McTeer* (Wayne University).

1261. Reckless, W. C. As sociologists enter child development study. *J. educ. Sociol.*, 1935, 9, 111-118.—Sociologists today approach the field of child development with a knowledge of and respect for research techniques and a theoretical background which provides an understandable and intelligible frame of reference for research in such a field. Their principal liabilities are their lack of facilities in securing children with which to work and their difficulties in supporting coordinated long-time projects. Nevertheless, sociologists can make and are making significant contributions in "comparative studies of children growing up under clearly defined social levels and backgrounds"; in attempting "to describe the process by which individual children acquire certain social attitudes, ideals, beliefs, consciousness of kind, roles, and modes of behavior"; and in measuring the practical results of the many social programs designed for the welfare of children.—*F. D. McTeer* (Wayne University).

1262. Reynolds, M. M. The sleep of young children in a twenty-four hour nursery school. *Ment. Hyg.*, N. Y., 1935, 19, 602-609.—This study was made during the six weeks of summer school of 1931-2-3 at the Institute of Euthenics at Vassar College. In the table comparing the sleep of children of different chronological ages, it is shown that there existed large variations in the amount of sleep taken by a child from day to day, but that the variations in weekly, bi-weekly or monthly averages for the same child were small. It is postulated that there may be a "tendency in the organism to maintain a fairly constant sleep balance over a longer period of time than

the twenty-four hour span." The importance of immediate external conditions in forming sleep habits must not be emphasized. When the following conditions are satisfied there should be "faith" that nature will determine the necessary amount of sleep for the child: regular rest and retiring habits must be established; conditions conducive to sleep should be present; and a day so balanced that it will prepare the organism for sleep should be planned.—*H. S. Clapp* (Grasslands Hospital, Valhalla, N. Y.)

1263. Rogers, K. H. An out-patient clinic procedure for the psychometric examination of pre-school children (9 months to 3 years). *Psychol. Bull.*, 1935, 32, 698-699.—Abstract.—*J. F. Dashiell* (North Carolina).

1264. Scheiblet, Z. Próba badań nad rozumieniem się wzajemnem dzieci polskich w wieku 6-8 lat. (An attempt to investigate the mutual understanding between Polish children from 6 to 8 years of age.) *Polsk. Arch. Psychol.*, 1933-4, 6, 193-224.—The children investigated by Piaget understood grown-ups better than they did other children. Investigations of Polish children, on the other hand, do not furnish any grounds for affirming that children understand grown-ups otherwise than they do other children.—*S. Blachowski* (Poznań).

1265. Smith, M. Suggestions for sociological research in child development. *J. educ. Sociol.*, 1935, 9, 105-110.—The author presents a classified enumeration of the answers of "a representative number of American sociologists" to the following questions: "What aspects of child life and development do sociologists think they can most profitably study in the near future and at what points of child study do they feel they can make distinctive research contributions?"—*F. D. McTeer* (Wayne University).

1266. Symonds, P. M. Seriousness of persons problems of adolescents and degree of interest in these problems. *Psychol. Bull.*, 1935, 32, 707-708.—Abstract.—*J. F. Dashiell* (North Carolina).

1267. Tennenbaum, E. Rola kina w zainteresowaniach dziecięcych. (Role of the cinema in children's interests.) *Polsk. Arch. Psychol.*, 1933-4, 6, 163-166.—Interest in the cinema obviously depends on age and sex. Boys are more interested in adventure, girls in romance and story—quite as in reading. The films that most often cause dissatisfaction are natural-science school films and drawings.—*S. Blachowski* (Poznań).

1268. Thompson, H. The development of upright posture. *Psychol. Bull.*, 1935, 32, 693.—Abstract.—*J. F. Dashiell* (North Carolina).

1269. Tryon, C. M. Sex differences in children's opinions of each other. *Psychol. Bull.*, 1935, 32, 546-547.—Abstract.—*J. F. Dashiell* (North Carolina).

1270. Wenger, M. A. An investigation of conditioned responses in human infants. *Psychol. Bull.*, 1935, 32, 691.—Abstract.—*J. F. Dashiell* (North Carolina).

[See also abstracts 788, 800, 842, 892, 1063, 1081, 1100, 1123.]

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